Director's Report to the National Advisory Mental Health Council

February 3, 2006

I am pleased to welcome members of the National Advisory Mental Health Council (NAMHC), and other participants and guests to our 211th Council meeting. Since we last met in September we have made progress on several fronts, which I share with you in this report. First, let me welcome three new members to the NAMHC:

Glorisa Canino, PhD, Professor of Pediatrics and Director of the Behavioral Sciences Research Institute at the University of Puerto Rico. Dr. Canino's research focuses on mental health services, cultural adaptation instruments and methods, and mental health problems among Puerto Rican children. She has extensive experience in the implementation of interdisciplinary, multi-site mental health research programs of major scientific importance to Latinos and has contributed significantly to research focusing on the impact of culture on the development, prevalence, and course of psychiatric disorders.

Pat Levitt, PhD, Professor of Pharmacology and Director of the Vanderbilt Kennedy Center for Research on Human Development at Vanderbilt University. Dr. Levitt studies molecular and cellular mechanisms that control the development of the forebrain, and the causes for developmental and neuropsychiatric disorders such as autism, anxiety, and schizophrenia. Dr. Levitt is the senior editor of the *Journal of Neuroscience* and associate editor for *Neuron*. He is also the Chair of the Scientific Advisory Board for Cure Autism Now, a member of the program and scientific communication committee for the American College of Neuropsychopharmacology (ACNP), and a member of the Dana Alliance for Brain Initiatives.

Norwood Knight-Richardson, MD, MBA, Vice Chairman of the Department of Psychiatry, Director of the Public Psychiatry Training Program, and Director of the Oregon Health and Sciences University Neuropsychiatric Institute. Dr. Knight-Richardson has extensive experience in public psychiatry administration as well as an extensive public service record, having served on the Citizens Advisory Committee to the Texas Mental Health Board and as Vice Chairman of the Texas Commission on Alcohol and Substance Abuse. In 2001, he was appointed by then Secretary of Health and Human Services, Tommy Thompson, to serve on the National Advisory Committee for Injury Prevention and Control for the Center for Disease Control and Prevention. His earlier tenure on the NAMHC was abbreviated when he joined the National Institute of Mental Health's Office of the Director on a part-time basis to assist with the development of initiatives for special populations. We are delighted to welcome him back on the Council.

On behalf of the entire National Institute of Mental Health (NIMH), I want to thank you for your willingness to serve the institute and the many millions of Americans affected by mental illness for whom we work.

NIH-Wide Update

NIH Review of Research Applications

On December 5, 2005, the National Institutes of Health (NIH) announced a pilot effort to significantly shorten its peer review process for research grant applications so scientists can begin their research sooner, to the public's benefit. This effort stems from a growing concern that the current grant review process is hindering the careers of promising researchers and the advancement of science and health. The pilot will help one of the most promising but vulnerable groups of researchers: new investigators applying for their first major NIH grant. Currently, the grant review process takes at least six months and involves over 15,000 outside scientific experts. However, starting in February, NIH's Center for Scientific Review (CSR) will initiate the pilot in 40 of its scientific review panels, offering quicker reviews to new investigators who need to resubmit revised applications for their first grant. This shortened process and delayed resubmission deadlines will allow researchers able to readily address reviewer concerns to revise and resubmit their applications for the very next review cycle, more than four months earlier than before. Details of the proposed pilot study have been posted online at http://grants.nih.gov/grants/guide/notice-files/NOT-OD-06-013.html.

Electronic Grant Submission

NIH will soon require all competing research grant applications to be submitted electronically via the web portal, Grants.gov, on a new application form called "SF 424 Research and Related (R&R) Grant Application." NIH is phasing in the transition by type of grant program (mechanism), beginning with the December 1, 2005 submission date for small business (SBIR/STTR) applicants and finishing in May 2007, when all grant programs will be submitted electronically with the new application. The process of handling nearly 2,000 SBIR/STTR applications for the first deadline will help inform on and facilitate subsequent transitions. The next significant transition date is June 1, 2006, when all R03s, R21s and R34s must be submitted electronically. For more information on electronic submission, please visit http://era.nih.gov/ElectronicReceipt/.

NIH Pathway to Independence Research Award Program

NIH data indicate that the average age of first-time (new) principal investigators obtaining R01 research funding from the NIH has risen to 42 years for PhD holders and 44 years for MD and MD/PhD holders. This trend must be curtailed in order to capture the creativity and innovation of new independent investigators in their early career stages to address our Nation's biomedical, behavioral, and clinical research needs. This initiative seeks to develop and implement a new program designed to facilitate receiving an R01 award earlier in an investigator's research career. The primary, long-term goal of the NIH Pathway to Independence Research Award Program is to increase and maintain a strong cohort of new and talented, NIH-supported, independent investigators.

The NIH Pathway to Independence Research Award Program will provide up to five years of support consisting of two phases. The initial, mentored phase will support, for up to two years, the most promising postdoctoral scientists to receive both mentored and independent research support from the same award. The initial 1-2 year mentored phase (using a K99 mechanism) will allow investigators to complete their mentored research work, publish, and search for an

academic position. In the second independent phase, using an R00 mechanism, the candidate may request up to three years of support to transition, as an independent scientist, to an extramural sponsoring institution/organization at which the individual has been recruited. This will allow the individual to continue working toward establishing his/her own independent research program and to prepare an application for regular research grant support (R01). Support for the independent phase, however, is not automatic and is contingent upon being accepted by an extramural institution and the successful NIH programmatic review of the individual's mentored postdoctoral phase of the award.

NIH anticipates issuing 150–200 of these awards in the initial year. Because the nature and scope of the proposed research will vary from application to application, the size and duration of each award are expected to vary. The total amount awarded and the number of awards will depend upon the number, quality, duration, and costs of the applications received. For more information about this award, please see http://grants.nih.gov/grants/guide/pa-files/PA-06-133.html.

NIH Establishes New Office

NIH has recently launched the centralized Office of Portfolio Analysis and Strategic Initiatives (OPASI) in an attempt to transform the way NIH finds and funds cutting-edge research. Among OPASI's mission goals are: (1) to provide NIH Institutes and Centers (ICs) with the methods and information necessary to improve management of large and complex scientific portfolios; (2) to identify—in concert with other inputs—important areas of emerging scientific opportunities or rising public health challenges; (3) to assist in acceleration of investments in these areas, focusing on those involving multiple ICs; and (4) to coordinate and make more effective use of the NIH-wide evaluation process.

In establishing the OPASI, NIH hopes to address the need for coordinated assessment and management of the overall research portfolio. Having a centralized office will also aid in developing transparent, systematic processes for coding funds related to specific diseases and conditions, assessing scientific opportunities and public health needs and integrating them into NIH-wide funding priorities, and coordinating funding of research areas that cut across or fall between the missions of individual ICs. OPASI will have the capacity to continually evaluate the benefits and impact of research investments, allowing NIH to be nimble, dynamic, and responsive to emerging scientific demands and opportunities.

Hiring Restrictions

Effective November 14, 2005, the U.S. Department of Health and Human Services (DHHS), the parent organization of NIH, implemented restrictions on the hiring of new staff from outside the Department, pending the Secretary's approval of an NIH Workforce plan for Fiscal Year (FY) 2006, now being developed. The restrictions apply to all job candidates from outside DHHS, including Intergovernmental Personnel Act detailees, temporary appointments (new and renewal), Commissioned Corps appointments, reimbursable details, and new contractors for work that would otherwise be done by government employees. The restrictions do **not** apply to: candidates within DHHS, internal promotions, Intramural Research Training Award appointments, Visiting Fellow appointments, Senior Executive Service appointments, existing contract agreements with no change in money or services, competitive sourcing, and posting vacancies.

Categorical exemptions were sought and approved for a period of 45 days, which expired at the end of January 2006. These include patient care and hospital operations positions, all categories of new scientific temporary appointments, all categories of new student and fellowship temporary appointments, health and safety positions, senior Institute or Center leadership positions, and positions in acquisitions. NIMH has been told it should not delay or stop any recruitment action that is currently active or planned.

Conflict of Interest

On December 31, 2005, the NIH updated its Policy Manual Issuance #1810-1, entitled, "Procedures for Avoiding Conflict of Interest for NIH Special Government Employee (SGE) Advisory Committee Members." Council members are reminded that they are Federal employees when working on Council business, and must try to avoid either real or perceived conflicts of interest. The new NIH policy issuance can be viewed online at http://www1.od.nih.gov/oma/manualchapters/management/1810-1/main.html.

NIH Roadmap

The NIH Roadmap is an integrated vision to deepen the understanding of biology, stimulate interdisciplinary research, and reshape clinical research to accelerate medical discovery and improve public health. The Roadmap is organized into three themes, and much activity involving NIMH staff has taken place in each of them. A full summary of Roadmap activities can be found at http://nihroadmap.nih.gov/. Here I will summarize just a few highlights where NIMH has served as the lead institute.

I. Pathways to Discovery

Molecular Libraries

The ten Molecular Libraries Screening Centers Network (MLSCN) centers established in June 2005 are now operational. In addition, the first cycle of grants in response to the program announcement, "Solicitation of Assays for High Throughput Screening (HTS) in the Molecular Libraries Screening Centers Network" (http://grants.nih.gov/grants/guide/pa-files/PAR-05-147.html), which solicits HTS assay applications from the biomedical community, was peer reviewed by a NIMH Special Emphasis Panel in June 2005. Twenty-eight of 64 assays were selected. Each screening center accepted two to three applications for implementation, and all ten centers have initiated collaboration with the assay providers to officially transfer their assays into the network. For the second cycle, which ended on September 14, 2005, 42 applications were received and were reviewed on December 9, 2005. To increase awareness of the newly established MLSCN, an advertisement was posted in *Science* on Dec 23, 2005; the journal *Nature Chemical Biology* plans to issue an article on the MLSCN's role in fostering collaboration between chemists and biologists; and the Society for Biomolecular Screening (SBS) published an article on the NIH Molecular Libraries Small Molecule Repository in December as part of a news series about the MLSCN, with plans to issue an article on each SBS-news for the next two years.

Two other Roadmap initiatives to further the development of HTS technologies and their use in the academic, government, and non-profit research sectors were the "Pilot-Scale Libraries for High-Throughput Screening" (http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-06-003.html) and

"Assay Development for High-Throughput Molecular Screening" (http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-06-004.html).

II. Research Teams of the Future

Interdisciplinary Research

In December 2005, a request for applications (RFA) titled, "Training for a New Interdisciplinary Research Workforce" (http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-06-006.html), was issued to catalyze the training scientists capable of integrative multidisciplinary research. This funding initiative has $2.6 million set aside in FY 2006 to support the development of novel training programs through the T90/R90 mechanisms.

The NIH Director's Pioneer Award (NDPA)

This award is designed to support scientists who propose pioneering approaches to major challenges in biomedical research. In 2005, three of the 13 Pioneer Award recipients were NIMH grantees. This RFA announces a third NDPA competition for approximately 5–10 new awards of $500,000 in direct costs per year for five years that will be made in FY 2006. Note that applications must be submitted electronically through Grants.gov (http://www.grants.gov) using the SF424 forms and the application instruction guide.

III. Re-Engineering the Clinical Research Enterprise

PROMIS (Patient Reported Outcomes Measurement Information System)

The PROMIS initiative, comprising six research sites and a statistical coordinating center, aims to develop ways to measure patient-reported symptoms such as pain, and fatigue and aspects of health-related quality of life across a wide variety of chronic diseases and conditions. A primary goal of PROMIS is to leverage item-response theory and computerized adaptive testing to efficiently and reliably assess a range of patient-reported clinical research outcomes in a publicly accessible system. Collaborators in this group have developed initial methods for measuring patient reports of physical functioning, pain, fatigue, emotional distress, and social role participation, based on a comprehensive review of existing measures in these domains. Qualitative review of these methods, including expert analysis, focus groups, and cognitive interviewing, is underway. After completion of this review in the summer of 2006, the resulting methods will be evaluated with approximately 10,000 participants selected from various medical and normal populations.

Clinical and Translational Science Awards

On October 12, 2005, NIH released RFA-RM-06-002 soliciting grant applications for Institutional Clinical and Translational Science Awards (CTSAs). The purpose of the CTSA initiative (http://www.ncrr.nih.gov/clinicaldiscipline.asp), is to forge a transformative, novel, and integrative academic home for clinical and translational science that has the consolidated resources to: (1) captivate, and nurture a cadre of well-trained interdisciplinary research teams; (2) create an incubator for innovative research tools and information technologies; and (3) catalyze the application of new knowledge to clinical practice at the front lines of patient care. On October 12, 2005, NIH also released an RFA soliciting applications for CTSA planning grants (http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-06-001.html). This will be a one-time solicitation in FY06 to allow institutions time to prepare a CTSA application in the future. Applications are due on March 27, 2006 and awards are expected by September 2006.

NIH Blueprint for Neuroscience Research

The Neuroscience Blueprint (http://braininfo.us/blueprint/index.html) is a framework to enhance cooperation among the 16 NIH ICs that support research on the nervous system. In the first year of funding (FY05), Blueprint funds were used to both expand existing activities and create new tools and resources and supported the following initiatives:

- *Course Development in the Neurobiology of Disease*
  This initiative supports the development and initiation or the significant expansion of courses on the neurobiology of disease for graduate students receiving basic neuroscience training.
- *NIH Neuroscience Microarray Consortium*
  The Microarray Consortium offers investigators funded by any Blueprint IC access to state-of-the-art technologies for gene expression (activity) profiling and SNP genotyping (identifying DNA sequence variations).
- *Gene Expression Nervous System Atlas (GENSAT)*
  This ambitious project seeks to map the expression of thousands of genes in the brain and spinal cord.
- *Pediatric MRI Study of Normal Brain Development*
  This is an NIH-supported effort to collect a series of images of the brain throughout normal development to provide reliable control data for studies of childhood brain disorders, and to aid in the development of new diagnostic tools.
- *International Neuroinformatics Coordinating Facility*
  Blueprint provided funds to launch and support the first year of operation for this new, independent organization created through the Global Science Forum of the Organization of Economic Cooperative Development to develop international neuroinformatics standards.
- *Neuroscience Information Framework*
  A contract was awarded to Weill Medical College of Cornell University, in partnership with the Society of Neuroscience, to develop a publicly accessible inventory of neuroscience databases and to establish a framework, which enables users to make concept-based queries of the inventory across multiple biological scales and functions.

Since the last NAMHC meeting, the initiatives described below have been launched under the NIH Blueprint for Neuroscience Research and will be funded in FY06:

- *Collaborative Training Programs*
  The initiative, "Training in Neuroimaging: Integrating First Principles and Applications" (http://grants.nih.gov/grants/guide/rfa-files/RFA-DA-06-011.html), will enable the development of novel interdisciplinary programs that integrate training in basic neuroscience, the physical and biological bases of neuroimaging, the technologies of *in vivo* neuroimaging, and the application of these technologies to understanding questions in neuroscience. In a similar vein, "Training in Computational Neuroscience: From Biology to Model and Back Again" (http://grants.nih/gov/grants/guide/rfa-files/RFA-DA-06-010.html) seeks to establish new research training programs in computational neuroscience for undergraduate and (optionally) predoctoral level students. A related RFA, "Training in Translational Research in Neurobiology of Disease" (http://grants.nih.gov/grants/guide/rfa-files/RFA-DA-06-008.html), previously funded in FY05 will be reissued. Programs funded through this

initiative would include concurrent training of both basic and clinical researchers, with cross-training and information flow in both directions.

- *Enhancing Research Opportunities that Use Mouse Models*
  The purpose of the RFA, "Development of Recombinase-Expressing ("Driver") Mouse Lines for Studying the Nervous System" (http://grants.nih.gov/grants/guide/rfa-files/RFA-MH-06-005.html), was to solicit applications to design, generate, and validate "driver" mouse lines that can be used to study gene functions in distinct cell types and/or useful temporal and spatial patterns in the nervous system. To help archive and disseminate useful mouse models, the Blueprint has set aside funds to support the acquisition and deposition in public repositories of large numbers of mouse models previously unavailable to the broader research community.
- *Interdisciplinary Core Grants*
  This initiative (http://grants.nih.gov/grants/guide/rfa-files/RFA-NS-06-003.html) will support centralized resources and facilities shared by neuroscience investigators. Each Center will be composed of one or more research cores, each of which will enrich the effectiveness of ongoing research, and promote new research directions.
- *New Ways to Image Neural Activity*
  This RFA (http://grants.nih.gov/grants/guide/rfa-files/RFA-EB-05-001.html) was issued in response to the need for innovative approaches to better demonstrate non-invasively, directly, accurately, and simultaneously the temporal and spatial dimensions of neural activity (with temporal resolution in milliseconds to tens of milliseconds and with sub-millimeter spatial resolution). Of particular interest are approaches that use non-invasive optical imaging of fast signals.

Planning for the NIH Blueprint for Neuroscience Research for Fiscal Years 2007, 2008, and 2009 has commenced. Initiatives in each of those fiscal years will focus on one topic, with FY07 devoted to neurodegeneration, FY08 to development, and FY09 to plasticity. It is expected that the emphases will continue to be on tools and resources that benefit the broad neuroscience research community.

NIMH Update

Payline for New, Competing Renewal, and Competing Supplement Grants

In general NIMH intends to support applications as follows: (a) in priority order through the 10th percentile and (b) at least half of those between the 10th and 20th percentile based on Institute priorities. Council and program staff may selectively recommend the payment of grants out of priority score order based on Institute priorities and to maintain a diverse and balanced portfolio (see http://www.nimh.nih.gov/strategic/strategicplan menu.cfm for details on NIMH research priorities). Competing awards (both modular and non-modular) may be reduced on average by 10 percent from Initial Review Group (IRG) recommended levels in an effort to fund the greatest number of applications possible. This is an average total reduction to all grants funded, not an across-the-board reduction to each grant funded, so some grants could be reduced by more or less than this amount.

Reduction in Training

NIMH is committed to research training that prepares junior and early-to-midcareer scientists to conduct innovative multidisciplinary and interdisciplinary research in areas of program

relevance. Given the lower rate of increase in the research budget compared to recent years, the Institute has determined that it is important to strike a strategic balance between building the pipeline of potential new investigators and maintaining a viable pay line to support research projects. We will continue to invest significant funds to train investigators in areas highly relevant to the Institute's mission. Over the next few years, however, NIMH will strategically decrease the percentage of the NIMH budget invested in training from roughly 10 percent to about 8.6 percent. If the number of incoming applications remains stable in FY06, the success rate for institutional training grants (T32) and career development awards (K-awards) will decrease notably. The success rate for individual fellowships (F30, F31, F32), however, will remain about the same as in FY05. For more details, please see http://www.nimh.nih.gov/researchfunding/training.cfm.

Reorganization of AIDS Center

The NIMH Center for Mental Health Research on AIDS (CMHRA) (http://www.nimh.nih.gov/dahbr/9a-as.cfm) has been restructured into three branches to accommodate an expanding portfolio and emerging priorities. Effective antiretroviral therapy has resulted in longer life expectancies for HIV-infected individuals, necessitating an increase in efforts to prevent further spread of the virus, and also to develop better ways to cope with living with HIV across the life span. Efforts toward identifying the neuropsychological and neuropsychiatric consequences of HIV infection continue to be an important area of research, with increasing emphasis on developing strategies for dealing with long-term consequences. Additionally, the CMHRA is expanding its emphases on long-term maintenance of behavior change, strategies for coping with HIV infection as a chronic illness, adherence to complicated medical regimens for extended periods, the effects of HIV infection on the aging individual, the effects of HIV in the central nervous system (CNS) over time, and the potential of the CNS to act as a reservoir for the virus. Internationally, other critical issues must be addressed to effectively manage the disease and its consequences in regions where the health care system is marginally efficient. Finally, programmatic realignment will improve the Center's ability to participate in the multidisciplinary research agenda that is rapidly emerging, particularly at the NIH Office of AIDS Research and the National Institute of Allergy and Infectious Diseases.

Update on Council Workgroups

Council Workgroup on Diversity

Following up on the previous year's survey about diversity efforts at NIMH, the NAMHC workgroup on diversity met in January 2005 to review progress on committee recommendations and future plans in this area. Implementing a Clinical Research Recruitment policy and activities related to training and mentoring were among the items presented. Continuing areas of concern include future approaches to training (given the Institute's plan to decrease investment in this area overall), staff recruitment, and the development of effective ways to evaluate success. To address these areas, the workgroup made further recommendations which will serve as guideposts for efforts for the coming year.

Council Workgroup on Services Research and Epidemiology

The NIMH mission is to reduce the burden of mental and behavioral disorders through research on mind, brain, and behavior. Reducing that burden requires that people with mental disorders have access to the successful, evidence-based treatments already developed through research.

Currently, however, many people cannot obtain, for themselves or someone close to them, appropriate, state-of-the-art treatment for mental illness. To ensure that NIMH moves forward to provide the research-based information that policymakers and those living with mental disorders require, the NAMHC formed the Services Research and Clinical Epidemiology Workgroup. The Workgroup will formulate recommendations to impact public health through developing scientific opportunities in mental health effectiveness research, epidemiology, and services research. Council member Susan Essock was chosen to chair the workgroup, and will be reporting today on the workgroup's recommendations related to research, capacity development, and dissemination.

Recruitment
NIMH is continuing to recruit for the positions of Director, Division of Neuroscience and Basic Behavioral Science; Director, Division of Services and Intervention Research; and Scientific Director, Division of Intramural Research. Additional information on these vacancies is available online at http://www.nimh.nih.gov/about/jobsatnimh.cfm.

Science of Note

Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) Study to Guide Treatment Choices for Schizophrenia

Initial findings from the nationwide CATIE clinical trial provide, for the first time, detailed information comparing the effectiveness and side effects of five medications—both new and older medications—that are currently used to treat people with schizophrenia. Overall, the medications were comparably effective, but were associated with high rates of discontinuation due to intolerable side effects or failure to adequately control symptoms. One new medication, olanzapine, was slightly better than the other drugs, but also was associated with significant weight-gain and metabolic changes. Surprisingly, the older, less expensive medication used in the study generally performed as well as the newer medications. The study, which included more than 1,400 people, supplies important new information that will help doctors and patients choose the most appropriate medication according to the patients' individual needs. This is only the first report of outcomes from the CATIE schizophrenia trial, and addresses many of the primary questions from the study. Future reports will address a multitude of topics, such as cost-effectiveness of the medications, quality of life, predictors of treatment response, and will provide a more detailed picture of the interaction between individual patient characteristics, medication, and outcomes. The information from the CATIE study will inform new approaches for improving outcomes in schizophrenia.

Lieberman JA, Stroup TS, McEvoy JP, Swartz MS, Rosenheck RA, Perkins DO, Keefe RS, Davis SM, Davis CE, Lebowitz BD, Severe J, Hsiao JK; Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) Investigators. Effectiveness of antipsychotic drugs in patients with chronic schizophrenia. N Engl J Med. 2005 Sep 22;353(12):1209-23.

Similar Neurobiological Changes Found in Childhood-, Adolescent-, and Adult-Onset Schizophrenia

Previous studies suggest that patients with early-onset schizophrenia (prior to age 18), show a number of the same brain abnormalities observed in adult schizophrenia, but with poorer functioning prior to developing the disease (premorbid functioning) and more severe cognitive and functional deficits after onset. In this study, Joseph Rhinewine and colleagues at Zucker

Hillside Hospital investigated whether there are differences in neuropsychological profiles between patients with onset prior to age 13 (childhood-onset schizophrenia , or COS) and those with onset between ages 13 and 18 (adolescent-onset schizophrenia , or AOS). This cross-sectional study evaluated 106 participants, ages 10–18. The researchers found a generalized cognitive deficit in schizophrenia cases relative to healthy children, with subtle relative deficits in executive functions (such as learning and memory) and subtle relative sparing of language and visuospatial skills. The profiles were similar for COS and AOS patients. The severity of generalized cognitive deficits was predicted by severity of "negative" schizophrenia symptoms (referring to reductions in normal emotional and behavioral states) and premorbid adjustment. These results are compatible with a hypothesis that early-onset schizophrenia represents a more severe form of the disorder than adult-onset schizophrenia. There was no evidence, however, that onset prior to adolescence indicates greater impairment than onset during adolescence.
Rhinewine JP, Lencz T, Thaden EP, Cervellione KL, Burdick KE, Henderson I, Bhaskar S, Keehlisen L, Kane J, Kohn N, Fisch GS, Bilder RM, Kumra S. Neurocognitive profile in adolescents with early-onset schizophrenia: clinical correlates. Biol Psychiatry. 2005 Nov 1;58(9):705-12.

Schizophrenia Brains Show Fewer Chandelier Cells than Healthy Brains
People with schizophrenia are known to have difficulty with "working memory tasks," such as remembering a string of numbers while doing simple math or naming colors printed in a different color (e.g., the word "red" is printed in green). A brain area known as the dorsolateral prefrontal cortex (DLPFC) is highly involved in such tasks; in particular, groups of specialized neurons called "chandelier" cells appear to interact with the neurotransmitter GABA, which inhibits the stream of communication between brain cells to prevent "information overload." Past studies have shown that the brains of people with schizophrenia have fewer chandelier cells in the DLPFC than healthy brains. To determine whether other brain areas affected by schizophrenia also show the same reduction, Glenn Konopaske and colleagues at the University of Pittsburgh studied postmortem brain tissue from 28 people, half of whom had schizophrenia and half of whom did not. In cases of schizophrenia, the researchers found similar reductions in chandelier cell density in other brain regions, although the DLPFC may show a more marked difference. The researchers also observed different subpopulations of chandelier cells, with different mixtures of these subpopulations across brain regions, raising the possibility that certain subpopulations are preferentially affected by schizophrenia. Further study and characterization of these chandelier cell subpopulations may provide targets for new therapies.
Konopaske GT, Sweet RA, Wu Q, Sampson A, Lewis DA. Regional specificity of chandelier neuron axon terminal alterations in schizophrenia. Neuroscience. 2005 Dec 6; [Epub ahead of print].

Conventional Antipsychotic Medications Pose Greater Risk of Death in Older Users Than Atypical Antipsychotic Medications
Antipsychotic medications are disproportionately used among older people and are prescribed for more than a quarter of Medicare beneficiaries in nursing homes. Recently, the Food and Drug Administration (FDA) issued an advisory stating that atypical antipsychotic medications increase mortality among older patients, but the advisory did not apply to conventional antipsychotic medications, as the risk of death with these agents is not known. The benefits and risks of treatments in older people cannot be extrapolated from studies involving younger populations, and in the absence of data, there is mounting concern that clinicians may simply switch older patients to conventional antipsychotics, particularly since their replacement by the newer drugs occurred so rapidly and recently. Researchers at Harvard Medical School led by Phillip Wang

reviewed the drug insurance records of 22,890 patients, 65 years of age or older, who began receiving a conventional or atypical antipsychotic between 1994 and 2003. The researchers found that conventional antipsychotics were associated with a significantly higher risk of death than were atypical antipsychotics at all intervals studied (less than 40 days, 40-79 days, and 80-180 days) and in all subgroups defined according to the presence or absence of dementia or nursing home residency. The greatest increases in risk occurred soon after therapy was initiated and with higher dosages of conventional antipsychotics. Increased risks associated with conventional as compared with atypical antipsychotics persisted in confirmatory analyses. These data provide no guidance with regard to which pharmacologic or nonpharmacologic interventions should be used to manage the many conditions and symptoms for which antipsychotic medications are used. If confirmed, however, these results suggest that conventional antipsychotics should be included in the FDA's Public Health Advisory. The researchers say that well-designed studies specifically involving the older population are sorely needed to define optimal care.

Wang PS, Schneeweiss S, Avorn J, Fischer MA, Mogun H, Solomon DH, Brookhart MA. Risk of death in elderly users of conventional vs. atypical antipsychotic medications. N Engl J Med. 2005 Dec 1;353(22):2335-41.

Sequenced Treatment Alternatives to Relieve Depression (STAR*D) Study to Guide Treatment Choices for Resistant Depression

Initial results of the nationwide STAR*D clinical trial in depression have helped clinicians to track "real world" patients who became symptom-free and to identify those who were resistant to the initial treatment. Participants treated in both medical and specialty mental health care settings experienced a remission of symptoms in 12 to 14 weeks during well-monitored treatment with an antidepressant medication. The study used flexible adjustment of dosages based on quick and easy-to-use clinician ratings of symptoms and patient self-ratings of side effects. About a third of participants reached a remission or virtual absence of symptoms during the initial phase of the study, with an additional 10 to 15 percent experiencing some improvement. Subsequent phases of the trials will help determine successful treatments for the nearly two thirds of those patients who were identified as treatment-resistant to a first medication in phase one.

*Trivedi MH, Rush AJ, Wisniewski SR, Nierenberg AA, Warden D, Ritz L, Norquist G, Howland RH, Lebowitz B, McGrath PJ, Shores-Wilson K, Biggs MM, Balasubramani GK, Fava M. Evaluation of outcomes with citalopram for depression using measurement-based care in STAR*D: implications for clinical practice. Am J Psychiatry. 2006 Jan;163(1):28-40.*

Fears of Increased Suicidality from Antidepressants May Be Unfounded

Using data from the Group Health Cooperative (a health plan in Washington and Idaho), Gregory Simon and colleagues analyzed computerized medical records of over 65,000 patients, collectively representing more than 82,000 episodes of antidepressant treatment (including ten of the newer antidepressants included in the Food and Drug Administration's advisory), between January 1, 1992 and June 30, 2003. Among the patients diagnosed with major depression, prescriptions filled were examined for two outcomes: suicide attempt with hospital admission or suicide death. These outcomes were examined 90 days before the initial antidepressant prescription and 180 days after. The risk of suicide attempt was highest in the month before prescriptions were filled and declined progressively after starting medications. The risk of suicide death was not significantly higher in the first month after starting medication than in subsequent months. While this study does not address whether a subgroup of individuals may be vulnerable to potential suicidal adverse effects of antidepressants, this observational study suggests that in this health plan, the frequency of suicide attempts are more likely, on average, to

decrease rather than increase with antidepressant treatment.
Simon GE, Savarino J, Operskalski B, Wang PS. Suicide risk during antidepressant treatment. Am J Psychiatry. 2006 Jan;163(1):41-7.

Nobel Laureate Discovers Possible New Target for Depression Therapy
Depression is the most prevalent psychiatric disorder, yet its biological causes are not fully understood. Studies on depression suggest that abnormalities in the creation and action of serotonin, a brain chemical used by nerve cells to communicate with one another, are likely to be involved in the disease. Furthermore, drugs that alter the serotonin system are commonly used as antidepressant medications, but precisely how these drugs work remains a mystery. Nobel Laureate, and long-time NIMH grantee, Paul Greengard and colleagues at Rockefeller University recently discovered a new protein that plays a key role in serotonin signaling and appears to mediate the action of antidepressants. The protein, p11, interacts with serotonin receptors, increasing the number of receptors that migrate to cell surfaces and in turn increasing levels of serotonin receptor functioning. The researchers also found decreased levels of p11 in the brains of "helpless" mice, a comparable model of human depression, as well as in postmortem human brain tissue from patients with depression. Conversely, when mice were treated with two different antidepressant drugs or with electroconvulsive therapy, p11 levels in the brain were increased. Thus, three different therapies for depression caused the same biochemical change in the brain. The researchers propose that p11 is associated with the main therapeutic action of antidepressant drugs. These findings suggest a new mechanism of psychopathology in which dysfunction of serotonin receptor mediation by p11 leads to a depression-like state. Importantly, p11 also represents a new potential target for the design of more effective antidepressant medications with fewer side effects.
Svenningsson P, Chergui K, Rachleff I, Flajolet M, Zhang X, Yacoubi ME, Vaugeois JM, Nomikos GG, Greengard P. Alterations in 5-HT_{1B} receptor function by p11 in depression-like states. Science. 2006 Jan 6; 311(5757): 77-80.

Depression Increases Death Rate in People with Type 2 Diabetes
Patients with co-occurring minor or major depression and type 2 diabetes may have a higher death rate over a three-year period compared to patients with diabetes alone. In a large health maintenance organization (HMO), Wayne Katon and colleagues at the University of Washington surveyed 4,154 patients with type 2 diabetes. Participants initially filled out a written questionnaire to screen for depression, and over the three-year study period, HMO automated diagnostic, laboratory and pharmacy data and Washington State mortality data were collected to assess diabetes complications and deaths. By the end of the study, there were 275 (8.3%) deaths in the 3,303 patients without depression, compared to 48 (13.6%) deaths in the 354 patients with minor depression, and 59 (11.9%) deaths among the 497 patients with major depression. Adjustments for age, sex, and educational attainment found that, compared to the non-depressed group, minor depression was associated with a 1.67-fold increase in mortality, and major depression was associated with a 2.30-fold increase. Even after controlling for multiple potential mediators, both minor and major depression remained significant predictors of death rate. These findings suggest that among patients with diabetes, both minor and major depression are strongly associated with increased mortality. Further research is needed to disentangle causal relationships among depression, behavioral risk factors (adherence to medical regimens), diabetes complications, and mortality.
Katon WJ, Rutter C, Simon G, Lin EH, Ludman E, Ciechanowski P, Kinder L,
Young B, Von Korff M. The association of comorbid depression with mortality in patients with type 2 diabetes. Diabetes Care. 2005 Nov;28(11):2668-72.

Cost-Effective Depression Screening in Children Can Be Done By Pediatricians
Because depression is recognized as a leading cause of disability and morbidity, the United States Preventive Services Task Force recommends routine screening for depression in adult medical care settings. However, no screening protocol for depression has ever been evaluated in children. To help fill this gap, Eyal Shemesh and colleagues at the Mount Sinai School of Medicine evaluated a screening protocol for depression in pediatric subspecialty outpatient clinics. They found that the use of a self-report questionnaire led to the accurate identification of depression in most cases. The researchers suggest that screening for depression in pediatricians' offices could be performed with minimal use of resources. In contrast to prior studies, this study incorporated the pediatrician's initial clinical suspicion into the assessment, thereby greatly improving the yield of the questionnaire in identifying depression. The impact of detecting depression in children could be enormous because it is well-established that depression leads to morbidity and increased use of health resources. This study suggests a highly cost-effective way to screen children for depression which may be incorporated into clinical practice and encourages specific recommendations by the appropriate agencies about how to implement the protocol, in the same way that adult depression screening recommendations were developed.
Shemesh E, Yehuda R, Rockmore L, Shneider BL, Emre S, Bartell AS, Schmeidler J, Annunziato RA, Stuber ML, Newcorn JH. Assessment of depression in medically ill children presenting to pediatric specialty clinics. J Am Acad Child Adolesc Psychiatry. 2005 Dec;44(12):1249-57.

Systematic Treatment Enhancement Program for Bipolar Disorder (STEP-BD) Study to Guide Treatment Choices for Bipolar Disorder
STEP-BD is a large, national research program that seeks to determine the best treatment practices and predictors of episode recurrence, based on outcomes for 4,360 study participants with bipolar disorder. Early results indicate that slightly more than half (58%) of a subset of the participants achieved recovery. This subset comprised the 1,469 patients who had least two years of participation in the STEP-BD Best Practice Treatment Pathway, which followed a clinician-directed, evidence-based model of care. Recovery was defined as having only two symptoms of the disorder for a period of at least 8 weeks, during the 2-year follow-up period. In addition, almost half of the recovery group had a recurrence during the up to 2 years of follow-up, and the majority (70%) of recurrences was characterized by a return to a depressive state. According to the researchers, these results indicate that in spite of modern, evidence-based treatment, bipolar disorder remains a highly recurrent, predominantly depressive illness. One important predictor of recurrence in this group of patients was the presence of other psychiatric illnesses, such as anxiety, eating disorders, or substance abuse.

Another concern addressed by STEP-BD was the chronic, episodic nature of bipolar disorder; there are some people who may not get better after several treatment attempts. Researchers designed a randomized clinical trial within STEP-BD to determine whether adding any one of three medications—lamotrigine, inositol, or risperidone—improved the outcomes of treatment-resistant bipolar patients who chose to enter the trial. Lamotrigine is a mood stabilizer; inositol is a naturally-produced chemical that affects neurotransmitter function and may have some antidepressant effects; and risperidone is an atypical antipsychotic medication. The results from this small trial (66 participants) indicate that overall, regardless of medication, the rates of recovery are low in this difficult-to-treat group of people with bipolar disorder. The findings also provide some direction for future, larger studies in that there is some suggestion that lamotrigine may have greater benefit compared to inositol and risperidone. These are the first of many

analyses which will become available over the coming months as researchers examine the largest dataset ever created on treatment outcomes for those with bipolar disorder.

Perlis RH, Ostacher MJ, Patel J, Marangell LB, Zhang H, Wisniewski SR, Ketter TA, Miklowitz DJ, Otto M, Gyulai L, Reilly-Harrington N, Nierenberg A, Sachs GS, Thase M. Predictors of recurrence in bipolar disorder: primary outcomes from the Systematic Treatment Enhancement Program for Bipolar Disorder (STEP-BD). Am J Psychiatry. 2006 Feb;163(2):217-224.

Nierenberg AA, Ostacher MJ, Calabrese JR, Ketter TA, Marangell LB, Miklowitz DJ, Miyahara S., Bauer MS, Thase ME, Wisniewski SR, Sachs GS. Treatment-resistant bipolar depression: a STEP-BD equipoise randomized effectiveness trial of antidepressant augmentation with lamotrigine, inositol, or risperidone. Am J Psychiatry. 2006 Feb;163(2):210-216.

MRI Findings in Childhood Predict Symptom Severity in Adults With Tourette Syndrome

Children with Tourette syndrome (TS) often experience a fluctuating pattern in severity of symptoms, such as tics, the involuntary and repetitive movements or sounds that characterize the disease. In one-half to two-thirds of children with TS, the severity of tics lessens dramatically in adolescence, and often disappears completely in adulthood. When tics persist into adulthood, they can be extreme. Previous imaging studies have demonstrated that reduced volume of the caudate nucleus, a brain structure involved in motor control, is a defining anatomical feature in children and adults with TS. In this study, Michael Bloch and colleagues at Yale University conducted brain imaging scans, using magnetic resonance imaging (MRI), and baseline characterization of tics and co-occurring disease symptoms in 43 children (average age of 11.4 years); they repeated the assessment of symptoms 7.5 years later in early adulthood. Consistent with previous studies, caudate volume was not associated with tic severity at the time of the MRI, but was significantly and negatively correlated with tic severity in early adulthood; the smaller the caudate, the worse tics tended to be. Childhood caudate volume was also significantly and negatively correlated with severity of symptoms of obsessive compulsive disorder, a common co-morbid condition, in adults with TS. These findings support the long-standing hypothesis that the primary disturbances in neurocircuitry thought to play a key role in causing TS are centered on brain pathways into or out of the caudate nucleus. Although further study is needed, these findings also raise the possibility that MRI-based measures of brain function may eventually be useful in predicting the long-term outcome in children with TS, and may help inform decisions about whether and when to initiate treatments.

Bloch MH, Leckman JF, Zhu H, Peterson BS. Caudate volumes in childhood predict symptom severity in adults with Tourette syndrome. Neurology. 2005 Oct 25;65(8):1253-8.

Postnatal Experiences Alter Development of Emotion-Related Circuitry in the Brain

In the early 90s, Paul Plotsky and Michael Meaney described how separating rat pups from their mothers for relatively brief periods of time (15 minutes to 3 hours) led to dramatic differences in stress reactivity in these animals as adults. This initial observation of how early experience can lead to such long-lasting changes spurred intense investigation by a number of labs, and there have been multiple observations about the neural and hormonal accompaniments to this long-term behavioral change. Recently, Linda Rinaman and colleagues at the University of Pittsburgh provided anatomical evidence that maternal separation results in very early reorganization of neural circuitry in rat pups that is directly linked to pathways responsible for generating autonomic ("emotional") responses. Rat pups separated from their mothers, compared to unseparated controls, show a significant reduction in the number of neurons in brain structures associated with emotional responses, including both the central nucleus of the amygdala, a structure strongly implicated in fear and stress responses, as well as the infralimbic and prelimbic

cortices; the infralimbic cortex has previously been shown by other NIMH-supported researchers to be involved in the extinction of conditioned fear responses in adult rats. These findings demonstrate tangible, anatomical changes associated with a relatively brief experience in early life that has long-term consequences for the adult. However, further research is needed to determine whether the reduction in neurons is simply a delay in neural development or the initial sign of a long-lasting decrement. In addition, the technique used in this study to label and track neurons did not distinguish between a real difference in cell number and a reduction in the synaptic connectivity between neurons in this circuit.

Card JP, Levitt P, Gluhovsky M, Rinaman L. Early experience modifies the postnatal assembly of autonomic emotional motor circuits in rats. J Neurosci. 2005 Oct 5;25(40):9102-11.

Why People Differ in How Much They Can Remember

Previous research has demonstrated that people vary in how much information they can hold in working memory. Working memory capacity has generally been thought to reflect how much storage space in a person's brain is devoted to holding information for brief periods of time. However, new work by Edward Vogel and colleagues at the University of Oregon indicates that another factor can also determine working memory capacity. The researchers recorded electrophysiological signals in the brain while study participants (healthy young adults) performed a task in which they were told to observe and remember particular visual forms that appeared among larger sets of forms. Analyses of the electrophysiological signals combined with behavioral measures of memory performance indicate that lower working memory capacity is associated with less effective control over the contents of working memory, not necessarily with less overall storage space. These results show that the efficiency and accuracy with which intended information is maintained in working memory—and non-intended information is excluded—is a major determinant of capacity. This basic research opens up new lines of inquiry into methods for enhancing learning and behavior change and for understanding and treating disorders that are characterized by dysfunctions of memory and attention, such as attention deficit hyperactivity disorder (ADHD), schizophrenia, and Alzheimer's disease.

Vogel EK, McCollough AW, Machizawa MG. Neural measures reveal individual differences in controlling access to working memory. Nature. 2005 Nov 24; 438: 500-503.

Fear Memories Are Stored in the Lateral Amygdala of the Brain

Studies of fear conditioning, the process of learning to fear a particular stimulus, have established that the lateral nucleus of the amygdala (LA) is critical for the acquisition of fear conditioning, whereas other regions are important for the expression of a learned fear response. What remains a source of significant controversy is where fear memories are stored within this network. A recent study led by Joe LeDoux at New York University provides evidence for a critical role of the LA in storing fear memories. After fear conditioning rats, LeDoux and colleagues infused the LA with a drug that blocks synaptic plasticity (the ability to adapt) and long-term consolidation of fear memories. The researchers then recorded auditory-evoked brain activity from cells in both the LA and auditory thalamus (the major brain pathway through which sounds are relayed to the parts of the brain that process sounds). As expected, long-term, but not short-term memory for fear conditioning was blocked by the drug. Neural recordings revealed that retention of long-term changes in neural activity that are normally associated with fear memory consolidation was impaired in the LA, but not in the thalamus. This demonstrates that impairment of long-term neural plasticity in the LA results from a disruption of local neural activity that supports the long term storage of fear memories, and not from disrupted plasticity

elsewhere in the fear circuit. These results have direct implications for targeting novel pharmacological treatments to the appropriate brain regions in order to alleviate pathological fear memories, most notably those associated with post-traumatic stress disorder (PTSD) and extreme forms of anxiety.

Schafe GE, Doyere V, LeDoux JE. Tracking the fear engram: the lateral amygdala is an essential locus of fear memory storage. J Neurosci. 2005 Oct 26;25(43):10010-4.

HIV/AIDS

Potential Novel Marker for HIV-dementia

Aquaporins are water channels that form pores in the membranes of cells. They selectively conduct water molecules through the membrane while preventing the passage of ions (such as sodium and potassium) and other small molecules, thus controlling the water contents of cells. In diseases, such as brain tumors or stroke, that are marked by activation of astrocytes (star-shaped cells that support neurons and regulate neuronal environments) or changes in the blood-brain barrier, aquaporin 4 (AQP4) has been shown to be altered. Since HIV-associated changes in mental functioning and personality (dementia) are also associated with blood-brain barrier disruption and astrocyte activation, Coryse St. Hillaire and colleagues at Johns Hopkins University examined the expression of AQP4 in postmortem brain tissue samples from 11 uninfected (HIV-), 10 neurologically normal HIV seropositive (HIV+), and 14 HIV-demented (HIVD) patients. The researchers demonstrated that evidence of immune system response for AQP4 is elevated in brain tissues of HIVD patients. The authors also examined AQP4 expression in HIVD brain tissue in terms of cellular localization and found expression on cells consistent with the morphological appearance of astrocytes. The authors have also demonstrated that thrombin, a proteinase that is elevated in association with HIVD, can stimulate an increase in AQP4 expression. In summary, AQP4 may serve as a novel marker for HIV-associated dementia, and further studies are underway to assess the influence of this molecule in HIV neuropathogenesis.

St Hillaire C, Vargas D, Pardo CA, Gincel D, Mann J, Rothstein JD, McArthur JC, Conant K. Aquaporin 4 is increased in association with human immunodeficiency virus dementia: implications for disease pathogenesis. J Neurovirol. 2005 Dec;11(6):535-43.

Key Signaling Pathways Regulating HIV Neuropathogenesis Are Identified

The first step in HIV type 1 (HIV-1) infections involves the binding of a certain protein (gp120) to the surface of immune system cells, which in turn, triggers the production of other proteins called cytokines, such as tumor necrosis factor (TNF-alpha), from human macrophages, another type of immune system cell. These cytokines have been implicated as critical mediators in the development of HIV–related disease in the central nervous system. However, the mechanisms regulating the release of these mediators by HIV-1 and gp120 are unclear. In this study, Chuhee Lee and colleagues at the University of Pennsylvania sought to define the pathways responsible for TNF-alpha secretion by macrophages following HIV-1 gp120 stimulation. The authors demonstrate that gp120-elicited TNF-alpha production by macrophages involve two enzymes, chemokine receptor mediated phosphadityl inositol kinase (PI-3K) and mitogen-activated protein kinases (MAPK). These gp120-triggered signaling pathways may be responsible for inappropriate production of inflammation-causing cytokines by macrophages, which are believed to play a role in immune system disease and in neurological disorders due to AIDS. Furthermore, delineation of these key signaling pathways opens up targets for treatment of neurological complication of HIV-infection.

Lee C, Tomkowicz B, Freedman BD, Collman RG. HIV-1 gp120-induced TNF-{alpha} production by primary human macrophages is mediated by phosphatidylinositol-3 (PI-3) kinase and mitogen-activated protein (MAP) kinase pathways. J Leukoc Biol. 2005 Oct;78(4):1016-23.

Community-Level Interventions May Improve Long-Term Risk Reduction Among Teens
Adolescents between the ages of 15–24 comprise nearly half of all cases of new HIV infections worldwide, and the majority of young people are infected sexually. Few interventions are targeted specifically at adolescents, and the various interventions appear to offer only limited efficacy for long-term risk reduction. Kathleen Sikkema and colleagues at Yale University investigated whether the effects of HIV prevention efforts are stronger and better maintained when they target individual beliefs and skills together with the social and peer environment. The research team randomly assigned 1,172 youths, representing 15 regionally and demographically matched low-income housing developments, to participate in a standard health education session (control condition); brief cognitive behavioral therapy (CBT)-based HIV prevention workshop, which included HIV education, skills training and risk behavior self-management, integrated with themes of personal pride and self-respect; or a community-level prevention intervention that offered skills workshops, involved parents and community leaders, and sponsored activities to create social and environmental supports, among other services. Follow-up assessments were conducted at three, 12, and 18 months after the interventions. Results suggested that among the three interventions, the multi-component, community intervention yielded the most favorable results for key outcomes (e.g., delaying first intercourse, sexual and drug use abstinence, condom use, refusal skills) for adolescents ages 12–15. Because adolescents are increasingly at risk for HIV, there is an urgent need for large-scale efforts to reduce sexual risk behavior, in conjunction with community-level involvement that provides a supportive social context for maintaining safe habits. Though somewhat limited in scope, this study demonstrates the effectiveness of one such intervention in accomplishing these goals in a low-income housing environment.
Sikkema KJ, Anderson ES, Kelly JA, Winett RA, Gore-Felton C, Roffman RA, Heckman TG, Graves K, Hoffmann RG, Brondino MJ. Outcomes of a randomized, controlled community-level HIV prevention intervention for adolescents in low-income housing developments. AIDS. 2005 Sep 23;19(14):1509-16.

Progress on NIMH Initiatives

Schizophrenia Research Forum

The Schizophrenia Research Forum (SRF) Web site (http://www.schizophreniaforum.org/), launched October 15, 2005, has had a highly successful first three months online. As of January 20, 2005, the site had received nearly one million hits from 15,332 different visitors, and with 1,257 members from 51 different countries, the response suggests the Web site is a welcome and useful resource. Much of this popularity can be credited to e-mail announcements, press releases, and other promotional activity by NIMH, the National Alliance for Research on Schizophrenia and Depression, and the International Congress on Schizophrenia Research. Site visibility and membership were also boosted when *Science* magazine released its top science news stories of the year, listing the SRF as the first of the "Interesting Web Sites" for further reading. Among the topics that have been most vigorously discussed are the design and conclusions of the CATIE study, COMT gene effects on of 22q11 deletion (velocardiofacial) syndrome, DISC1 and associated proteins, experience effects on HPA axis neuropeptides, the putative novel candidate schizophrenia gene SELENBP1, and the utility of electrophysiological endophenotypes.

NIMH Activities in Response to Gulf Coast Hurricanes

To assist in recovery efforts for areas affected by the 2005 Gulf Coast hurricanes, an NIMH Task Force was established to coordinate NIMH activities related to assessing needs, planning response, and implementing plans. The Task Force comprises Thomas Insel (Director, NIMH), Richard Nakamura (Deputy Director, NIMH), Della Hann (Chair and contact for communications), Gemma Weiblinger (contact for outreach), Donald Rosenstein (contact for volunteer deployment), and Farris Tuma (contact for research).

This Task Force is focused on the following core areas of activity:

- Communication and outreach through the dissemination of information (print, electronic and multi-media) and use of existing "partner" networks.
- Deployment of NIMH personnel through NIH, the U.S. Public Health Service (PHS), the Substance Abuse and Mental Health Services Administration (SAMHSA), and other sources to serve in the region or to assist with notifying families from the command center in Washington, DC.
- Coordination with researchers both within and outside of the region to consider how we can learn from this experience to improve our preparedness and response.
- Planning for what is likely to be an enormous public mental health burden in the region.

NIMH clinical staff members have been and continue to be deployed to various locations in the impacted communities. Deployments have been coordinated through SAMHSA, NIH, PHS, and voluntary organizations. As of October 17, 2005, twenty clinical staff members have been deployed in one capacity or another to the impacted region.

Senior staff and scientific program staff have been in communication with federal, state and local authorities involved with the response efforts. These communications have focused heavily on relaying science-based information about the anticipated psychological and behavioral responses among those with direct and indirect exposure to the hurricanes and their aftermath, as well as evidence-based approaches to coping, assessing needs, triage for acute mental health services, and treatment. To date, NIMH has sent more than 20,000 copies of publications in response to information requests from the affected areas. Additional efforts are underway for refining several of the publications focused on helping children cope with trauma.

The NAMHC has held two Gulf Coast work group meetings to review NIMH activities and facilitate long term planning. Additional communications have focused on: the exchange of information about evolving needs on regional, state, and local levels; problems related to obtaining mental health personnel and deploying NIMH staff; and long-range plans for mental health needs, including training of providers in the region and in communities receiving displaced persons.

NIMH remains involved with SAMHSA and other DHHS agencies in planning "lessons learned" meetings and in assisting impacted states in identifying challenges and research opportunities/needs to overcome barriers.

NIMH activated its Rapid Assessment Post Impact of Disaster (RAPID) research program to receive new research grant applications which hold the promise of learning from this experience

to improve disaster preparedness and response. As of October 17, 2005, more than 80 inquiries had been handled and approximately 15 applications were in the pipeline for consideration. The range of topics being proposed for study includes: public policy, service availability and service use among evacuees with pre-existing and new mental health conditions; pre-natal trauma, maternal mental health and infant adjustment; psychological, academic and social functioning of school children; biological and psychosocial predictors of risk and resilience; community recovery; resilience among African American families; individual cognition, decision making and resilience; understanding and addressing minority mental health needs; social networks and post-disaster mental health needs. Great care is being taken to ensure coordination with public health and clinical response efforts underway and planned.

NIMH has also awarded an administrative supplement to an existing NIMH-funded research project in an effort to understand experiences during the disaster that could modify the effects of traumatic stress on emotional response and experiences with treatment; and to identify things survivors find most stressful and practical actions officials could do to address these problems.

New Interdisciplinary Centers Program

NIMH's Division of Pediatric Translational Research and Treatment Development (DPTR) recently instituted a new program called, "Interdisciplinary Developmental Science Centers for Mental Health (IDSC)." Announcements were issued in November 2005 soliciting applications for cross-disciplinary, integrative research centers focused on understanding neurobehavioral mechanisms responsible for child and adolescent mental disorders. The IDSC program includes both Mature (P50) and Formative (P20) centers. More information on these announcements can be found online at http://grants1.nih.gov/grants/guide/pa-files/par-06-053.html, and http://grants1.nih.gov/grants/guide/pa-files/par-06-062.html.

National Data Resource for Autism Research

Development of the National Database for Autism Research (NDAR) began in 2005 through the collaborative efforts of NIMH, the National Institute of Child Health and Human Development (NICHD), the National Institute of Neurological Disorders and Stroke (NINDS), the National Institute on Deafness and Other Communication Disorders (NIDCD), the National Institute of Environmental Health Sciences (NIEHS), and the NIH Center for Information Technology (CIT). NDAR will serve as a national resource for autism research and clinical practice with the goal of shortening the time of discovery of causes and treatments for autism. It will support clinical and translational research within the autism research community and will build on existing work within the autism community and in related research domains. Ultimately, NDAR will make it easier and faster for autism researchers to gather, evaluate, and share autism data from a variety of sources and in a variety of formats. NDAR technology is based on BIRN, the Biomedical Informatics Research Network (http://www.nbirn.net), a cyber-infrastructure that facilitates data sharing and comparison, as well as multi-institutional collaboration. The NDAR Implementation Team, consisting of representatives from the sponsoring Institutes and CIT, has been established, and is moving forward in establishing policies, hardware and software resources, and technologies to facilitate data entry. It is expected that NDAR's functionality will be operational by the end of 2006.

Public Web site for Centers of Excellence in Autism Research
The multi-institute funded (NIMH, NICHD, NINDS, NIDCD, NIEHS) Studies to Advance Autism Research and Treatment (STAART) Centers, and their data coordinating center, DM-STAT, Inc., launched a public Web site (http://www.autismresearchnetwork.org/AN/). The site provides detailed information about each participating Center and its projects. Science highlights are periodically written and posted by the Centers' investigators. The resource is intended for individuals with autism spectrum disorders and their families, caregivers, and researchers. The site also includes similar information about another network of autism research, the Collaborative Programs of Excellence in Autism Research (CPEA), funded by NICHD and NIDCD, and collaborations between the STAART and CPEA programs.

NIMH-Administered RFAs

- *NIMH Research on Mental Health in Criminal Justice at NIDA CJ-DATS Sites*
  NIMH invites research grant applications that propose developmental services and intervention research on mental disorders or co-occurring mental and substance abuse disorders to be conducted within the National Institute on Drug Abuse (NIDA) National Criminal Justice Drug Abuse Treatment Services Research System (CJ-DATS).
  Release Date: November 17, 2005; Expiration Date: January 27, 2006
  http://grants.nih.gov/grants/guide/rfa-files/RFA-MH-06-005.html
  Scientific Director: Denise Juliano-Bult, MSW, Division of Services and Intervention Research (DSIR), NIMH.
- *Antidepressant Treatment and Suicidality*
  NIMH is requesting research applications to study the relationship between use of antidepressant medications, especially the selective serotonin reuptake inhibitors (SSRIs), and suicidality (including suicidal ideation, suicidal attempts, and suicide deaths).
  Release Date: September 27, 2005; Expiration Date: December 21, 2005
  http://grants.nih.gov/grants/guide/rfa-files/RFA-MH-06-001.html
  Scientific Director: Jane Pearson, PhD, DSIR, NIMH.
- *Health Behavior Change in Mental Disorders Modeled from HIV Interventions*
  The purpose of this request for applications is to encourage innovative research in health behavior change among those with mental disorders that is informed by research from behavioral interventions for HIV/AIDS.
  Release Date: September 27, 2005; Expiration Date: December 20, 2005
  http://grants.nih.gov/grants/guide/rfa-files/RFA-MH-06-002.html
  Scientific Director: William Riley, PhD, Division of AIDS and Health and Behavior Research (DAHBR), NIMH.
- *Intervention and Practice Research for Combat-Related Mental Disorders and Stress Reactions*
  In collaboration with the Clinical Science Research & Development Service of the Department of Veteran's Affairs (VA) and the Military Operational Medicine Research Program of the Department of Defense (DOD), NIMH is jointly soliciting applications to enhance and accelerate research on the identification, prevention and treatment of combat related posttraumatic psychopathology and similar adjustment problems.
  Release Date: September 26, 2005; Expiration Date: January 26, 2006
  http://grants.nih.gov/grants/guide/rfa-files/RFA-MH-06-004.html
  Scientific Director: Farris Tuma, ScD, Division of Adult Translational Research and Treatment Development (DATR), NIMH.

Collaborative RFAs

- Autism Centers of Excellence (ACE)
  In order to maximize coordination and cohesion of NIH-sponsored research efforts in autism, NICHD, NIMH, NINDS, NIEHS, and NIDCD have initiated a new funding program that represents a consolidation of the existing Studies to Advance Autism Research and Treatment (STAART) and Collaborative Programs of Excellence in Autism (CPEA) programs.
  Release Date: January 20, 2006; Expiration Date: August 12, 2006
  R01: http://grants.nih.gov/grants/guide/rfa-files/RFA-HD-06-004.html
  P50: http://grants.nih.gov/grants/guide/rfa-files/RFA-HD-06-016.html
  Scientific Program Director: Alice Kau, PhD, Mental Retardation and Developmental Disabilities Branch, Center for Developmental Biology and Perinatal Medicine, NICHD.
- *Microbicide Innovation Program*
  This announcement seeks applications advancing: (1) discovery and exploration of microbicides (singly or in combinations) directed against HIV or STIs linked to HIV acquisition; (2) emerging technologies or models that contribute to the development of new and/or more efficient ways of assessing microbicide safety, efficacy and acceptability; (3) exploration of complex prevention strategies that incorporate topical microbicides in the context of mucosal active vaccines; and (4) development of behavioral and social tools that address product acceptability, initiation, and potential for sustained use.
  Release Date: November 22, 2005; Expiration Date: January 27, 2006
  http://grants.nih.gov/grants/guide/rfa-files/RFA-AI-06-005.html
  Scientific Director: Jim A. Turpin, PhD, Division of AIDS, National Institute of Allergy and Infectious Diseases (NIAID).
- *Development and Improvement of Inbred ES Cell Lines for Use in Generation of Mouse Mutants*
  The purpose of this RFA is to develop C57BL/6 ES cell lines that are efficient for high-throughput gene targeting and in successfully generating mice that can transmit the targeted mutation through the germline, both steps being necessary to create knockout mice on a C57BL/6 background.
  Release Date: September 16, 2005; Expiration Date: November 25, 2005
  http://grants.nih.gov/grants/guide/rfa-files/RFA-DA-06-009.html
  Scientific Director: Jonathan Pollock, PhD, Division of Basic Neuroscience and Behavioral Research, Genetics and Molecular Neurobiology Research Branch, NIDA.

NIMH Public Outreach

Real Men Real Depression

NIMH launched new Real Men Real Depression (RMRD) materials in Spanish in October 2005. Spanish-language RMRD public service announcements (PSAs) for television and radio were released in late September and early October of 2005. The TV PSAs have aired on eight stations in the major Latino markets with an estimated audience of over 500,000 and more than $25,000 in earned air-time. The radio PSAs reached an audience of 24 million listeners.

A radio media tour with Dr. Sergio Aguilar-Gaxiola and Campaign Spokesman Rodolfo Palma-Lulión was conducted in late October 2005. The tour and the audio news release resulted in 44

broadcasts and an estimated audience of 6.3 million listeners in the major Latino media markets across the country.

AARP Broadcast News filmed a segment on men and depression that went out to hundreds of stations across the country for use in local broadcasts. An additional segment featuring Dr. Aguilar-Gaxiola, focusing on depression in Latino men, is planned for 2006.

Alliance for Research Progress Winter Science Meeting
NIMH is committed to maintaining an active dialogue with its stakeholders and to developing a research agenda that is responsive to the needs of its constituents. As part of this effort, the Institute convened the fourth meeting of the Alliance for Research Progress on January 20, 2006 in Rockville, Maryland. Invitees embodied wide-ranging perspectives, including those of consumers, mental health service providers, family members, and others. Presentation topics included research on trauma and terror with a focus on soldiers and their families, returning veterans, disasters, and new findings about mental illnesses in the workplace. Susan M. Essock, PhD, led a group discussion about NIMH research priorities at the request of the NAMHC Workgroup on Services and Epidemiology. A comprehensive report of the meeting is posted on the NIMH Web site at www.nimh.nih.gov/outreach/alliancemenu.cfm.

NIMH Outreach Partnership Program
After a year-long competition, NIMH has selected 22 new partners for its Outreach Partnership Program. This national outreach initiative strives to bridge the gap between mental health research and clinical practice by increasing public awareness of mental health and illness, and by encouraging public engagement in the development of a national mental health research agenda. The Outreach Partnership Program began in 1999 with 18 partners in 17 states and the District of Columbia. The remaining partnerships will be competed later this year for a total of 51 partners, representing every state and the District of Columbia. In addition to the state Outreach Partners, there are also more than 80 National Partners. Information about the program is available on the NIMH Web site at www.nimh.nih.gov/outreach/partners/index.cfm.

New Legislation and Related Items
A hearing on the reauthorization of NIH was held on July 19, 2005 but no bill has been formally introduced. NIH has not been formally reauthorized since 1993. Recently enacted public laws of interest to NIMH include:

The President signed H.R. 3673 – The Supplemental Appropriations Act to Meet Immediate Needs Arising From the Consequences of Hurricane Katrina, 2005 on September 8, 2005, becoming P.L. 109-62. This and several other supplemental appropriations measures combined to provide over $60 billion for emergency hurricane expenses to support costs of evacuation, emergency repairs, deployment of personnel, and other costs resulting from immediate relief efforts.

The President signed H.R. 2528 – Military Quality of Life and Veteran's Affairs Appropriations Act of 2006 on November 30, 2005, becoming P.L. 109-114. The bill was introduced on May 23, 2005 by Representative James Walsh (R-NY). An amended version passed the Senate on November 18, 2005 and the House on November 28, 2005. This bill makes appropriations for

military quality-of-life functions of the DOD, military construction, the VA, and related agencies for the fiscal year ending September 30, 2006, and for other purposes. H.R. 2528 states that "the Secretary of Defense and the National Center on Traumatic Stress Disorder should continue to work together to ensure that the mental health care needs of service members and veterans are met." One noteworthy provision in the conference report calls for the VA to dedicate at least $2.2 billion of its medical service budget to mental health diagnosis and treatment.

Research Conferences and Workshops

NIMH Directors Seminar Series

This monthly seminar series is designed to highlight outstanding basic and clinical science supported by NIMH. There were five seminars from September 2005 through January 2006, listed below:

James Blair:	Anxiety Disorders and the Emotional Suspects: Amygdala, Orbital Frontal Cortex and the Anterior Cingulate
Andreas Meyer-Lindenberg:	Neural Circuits for Human Social Behavior and Anxiety Under Genetic Control
Kenneth Kendler:	Psychiatric Genetics, A Current Perspective
Peter Schmidt:	Reproductive Aging, Sex Steroids, and Depression
BJ Casey:	Development and Disruption of Frontostriatal and Frontocerebellar Circuits in Disorders of Cognitive Control

For more information, please contact Mayada Akil at makil@mail.nih.gov.

National Psychiatry Training Council

The National Psychiatry Training Council (NPTC) was convened in response to a report commissioned by the NIMH from the Institute of Medicine (IOM) to explore and identify barriers to training in psychiatry residency programs. The IOM's main recommendation, as detailed in their 2003 report, "Research Training in Psychiatry: Strategies for Reform," was for NIMH to take the lead in organizing a national body that would develop a vision for reform. This council included representatives from many professional organizations, regulatory bodies and other stakeholders. The mission of the NPTC was to: (1) develop a detailed vision for reform of psychiatric residency training that includes more flexible core training requirements designed to ensure clinical competency, research literacy and opportunities for research training and early specialization; (2) identify steps to be undertaken by each stakeholder organization independently and by all key stakeholders working together in partnership; and (3) develop plans and timelines for accomplishing these steps. Over the past two years, the NPTC has generated detailed recommendations in nine major areas: model programs, pipeline, regulatory revisions, mentorship, research literacy, retention, finance, outcomes, and dissemination. Their last meeting occurred in November 2005 in Washington, DC and the final report is being prepared.
For more information, please contact Regina James at rjames@mail.nih.gov.

Antipsychotics, Mood Stabilizers and Metabolic Adverse Effects Meeting

In October 2005, NIMH sponsored a meeting to review the current state of knowledge on adverse metabolic side effects associated with antipsychotic and other psychiatric medications, and to define the most critical and promising research opportunities in pathophysiology,

treatment, and services. Meeting topics included pathophysiology, the mechanisms through which the above-mentioned medications may be exerting their adverse actions, metabolic endpoints, and research strategies to develop and implement the monitoring, prevention, and treatment of adverse metabolic effects associated with these medications. *For more information, please contact Mark Chavez at mchavez1@mail.nih.gov.*

Assessment of Negative Symptoms in Schizophrenia
The Division of Adult Translational Research and Treatment Development (DATR) convened a meeting with the FDA, industry representatives, and academic investigators in Great Neck, New York in November 2005 to review the adequacy of current measurement technology and initiate a process to develop second generation measures for use in clinical trials of novel therapeutic agents targeting negative symptoms. *For more information, please contact Karen Bourdon at kbourdon@mail.nih.gov.*

Collaborative Psychiatric Epidemiology Surveys Meeting
DATR held a meeting in January with investigators involved in the Collaborative Psychiatric Epidemiology Surveys (CPES). These include researchers from the National Co-morbidity Survey Replication, the National Survey of African Americans, and the National Latino and Asian American Study. A primary aim of the meeting was to plan for the cross-site merged data set and documentation, which will be Web-based and made available for public use. This data set will be the primary resource for cross-site analyses of racial/ethnic differences in prevalence of mental disorders and service use. *For more information, please contact Wayne Fenton at wfenton@mail.nih.gov.*

Federal Child Neglect Research Consortium
Advocacy groups and scientists interested in learning abut the latest research progress in child neglect participated in the public session of the Federal Child Neglect Research Consortium in January 2006. NIMH is the chair of this consortium and the meeting is co-sponsored by the NIH Child Abuse Neglect Working Group. *For more information, please contact Cheryl Boyce at cboyce@mail.nih.gov.*

Neurobiology of HIV, Psychiatric and Substance Abuse Co-morbidity Meeting
Epidemiological studies indicate that the majority of HIV-1 infected individuals will suffer from a psychiatric illness including depressive episodes, clinical depression, anxiety, or psychosis and alcohol and substance abuse during the course of their infection. In December 2005, the NIMH Center for Mental Health Research and AIDS (CMHRA) and the NIDA held a joint workshop to raise awareness in the scientific community and to help identify best approaches, strategies, and models for studying HIV psychiatric and substance abuse co-morbidity at a neurobiological level. Participants helped facilitate the development of best approaches for addressing the biological and genetic factors underlying the high co-morbidity between HIV-1 infection, psychiatric and substances abuse disorders. *For more information, please contact Kathy Kopnisky @ kkopnisk@mail.nih.gov.*

Minority Research and Training Programs for Mental Health of HIV/AIDS: Mentoring and Training Partnerships.
NIMH convened this workshop in December 2005 to enhance and expand the capacity for NIMH-funded HIV/AIDS research by minority investigators and by minority-dominated or

minority-serving institutions in HIV/AIDS research on prevention, therapeutics, neuropsychiatry and basic and clinical neuroscience. Presentations centered on the barriers that impede training and career progress of minorities to carry out HIV/AIDS mental health research and attempts to overcome these barriers through models and strategies of mentoring and minority-majority institution partnerships. *For more information, please contact David M. Stoff at dstoff@nih.gov.*

Research Designs to Test AIDS Prevention Programs: Designs Equivalent to or More Appropriate than the RCT.
In November 2005, NIMH's CMHRA co-sponsored this meeting with the NIH Office of AIDS Research to hold an in-depth discussion on the increasingly complex nature of AIDS behavioral research and to provide guidance to the field about how to conduct AIDS behavioral studies using innovative designs and research methods. Specific goals were to determine research questions for which randomized controlled trials (RCTs) are appropriate and feasible and questions for which other designs may be preferable; to identify non-randomized controlled test designs; to develop case studies for RCT and non-RCT designs; and to develop an outline, strategy, and timeline for a paper, entitled "Multiple Pathways to Causal Inferences About Efficacy and Effectiveness of Public Health Interventions." *For more information please contact Willo Pequegnat at wpequegn@mail.nih.gov.*

PDE-5 Inhibition and HIV Risk: Current Concepts and Controversies
Recent studies have linked recreational use of phosphodiesterase type 5 (PDE-5) inhibitors, such as Levitra® or Cialis®, with increased rates of high risk sexual behavior and HIV infection among at-risk individuals, as well as with increased rates of abusing drugs like methamphetamines or MDMA (commonly known as "ecstasy"). In response, a conference sponsored by NIMH in collaboration with NIDA and the CDC, was convened in September 2005 in Potomac, MD to assess the state of evidence in this emerging area of research, and its implications for public health policy. The conference included state-of-the-art presentations from the perspectives of basic science, survey research, clinical pharmacology and public health and addressed the mechanism of action of the PDE-5s, central nervous system control of sexual function, the use of PDE-5s in high risk populations and in HIV infection or associated STDs, the importance of balancing risk and benefit, gaps in research and education and the ethical issues of responsibility. The conference identified and prioritized research and policy implications in this area and made suggestions regarding future research, policy and educational needs. *For more information, please contact David M. Stoff at dstoff@mail.nih.gov.*

Tobacco Use and Cessation in Psychiatric Disorders Workgroup Meeting
This NIMH-sponsored workgroup was held in September 2005 in Rockville, MD. Researchers who study tobacco use in schizophrenia, depression, and anxiety discussed the mechanisms of association between tobacco use and psychiatric disorders, and adaptations of tobacco cessation and prevention interventions to those with co-morbid mental disorders. Future research directions were discussed and summarized. *For more information, please contact William Riley wiriley@mail.nih.gov.*

Obesity, Nutrition and Physical Activity Issues Among those with Mental Disorders Workgroup Meeting
This NIMH-sponsored workgroup was held in October 2005 in Rockville, MD. Researchers in the areas of epidemiology, nutrition, weight control, metabolic side effects, and physical activity

discussed the relationship between mental disorders and obesity, poor nutrition, and physical inactivity. The workgroup also discussed future research directions, particularly methods to reduce these health risk behaviors in those with co-morbid mental disorders. The workgroup's findings are being summarized for presentation or publication. *For more information, please contact William Riley at wiriley@mail.nih.gov.*

Budget

FY 2006 Congressional Action:
After three consecutive Continuing Resolutions held the National Institutes of Health to its FY05 funding level, the Congress passed an FY06 appropriation for the NIH on December 30, 2005. As indicated on Attachment 1, the Bill provides a total of $28.6 billion for the NIH. This total NIH amount represents a decrease of $213 million or 0.7 percent below the FY05 NIH total of $28.8 billion. The final NIH total enacted appropriation of $28.6 billion is less than the amounts in the President's Budget Request ($28.7 billion), previous House action ($28.7 billion), and previous Senate action ($29.6 billion).

The FY06 President's Budget had proposed to reduce committed funding levels for ongoing Research Project Grants (RPGs) by about 1 percent and to allow no increase in the average cost of competing RPGs. Due to the lower funding level of the final FY06 appropriation, however, the NIH has mandated a decrease of –2.35 percent from FY06 commitments of record for each FY 2006 non-competing RPG. This reduction to commitments and the policy to allow no increase in the average cost of competing RPGs over FY05 are primarily intended to permit NIH to award a higher number of competing RPGs than would have otherwise been possible.

For Research Training, stipends will increase by 0%–4% for post-doctoral fellows, depending on levels of experience. NIH will continue the health benefits increase for post-doctoral fellows that started in FY05 and continued into 2006, and provides an additional $500 per fellow. These funding increases will be financed by a reduction in the number of training positions.

For the first time since FY 1982, the NIMH will have a year-to-year decrease in funding. The NIMH FY06 appropriation of $1.403 billion is a decrease of $8 million or 0.6 percent below FY05. As shown on Attachment 2, NIMH currently projects awarding approximately 550 competing RPGs in FY06, compared to 569 in FY05.

FY 2007 President's Budget Request:
The FY07 President's Budget Request will become public when it is released on Monday, February 6, 2006.

Major NIMH Staff Awards

DHHS Recognitions
Council member, **Sergio Aguilar-Gaxiola, MD, PhD**, received the Minority Health Community Leadership Award at the DHHS Office of Minority Health (OMH)'s 2006 Commemorative Awards Event, the "National Leadership Summit on Eliminating Racial and Ethnic Disparities in

Health." Other distinguished honorees included former HHS Secretary Margaret Heckler, former Congressman Lois Stokes, and former OMH Director Herbert Nickens.

NIH Director's Pioneer Award

Karl Deisseroth, MD, PhD, Stanford University; **Erich D. Jarvis, PhD**, Duke University; and **Giulio Tononi, MD, PhD**, University of Wisconsin-Madison, were among the 13 recipients of the 2005 NIH Director's Pioneer Awards. The award, a key component of the NIH Roadmap for Medical Research, supports exceptionally creative scientists who take innovative approaches to major challenges in biomedical research.

Awards from Outside Organizations

NIMH Deputy Director, **Richard K. Nakamura, PhD,** was the recipient of the International Behavioral Neuroscience Society's (IBNS) award for "outstanding accomplishments in support of scientific research relevant to behavioral neuroscience." The award was presented in November at the annual meeting of the Society for Neuroscience in Washington, DC. This rare honor has only been given to three other U.S. scientists before Dr. Nakamura: Israel Lederhendler, Director of the NIH Office of Electronic Research and Reports Management; Kathie Olsen, Deputy Director of the National Science Foundation; and Paul Sanberg, founding president of the IBNS.

In December 2005, **Molly Oliveri, PhD,** Deputy Director of DPTR, received the Meritorious Research Service Commendation from the American Psychological Association. This commendation recognizes individuals who have made outstanding contributions to psychological science through their service as employees of the federal government or other organizations.

Major Awards for NIMH Grantees

Miranda M. Lim, PhD, was awarded the prestigious Donald B. Lindsley Prize in Behavioral Neuroscience at the 2005 Society for Neuroscience meeting in Washington, DC. The Prize, which recognizes meritorious research in behavioral neuroscience, is awarded for the most outstanding PhD thesis in the general area of behavioral neuroscience submitted and approved during the previous calendar year. The research for which Dr. Lim was honored traced the activity in the brains of voles (small, mouse-like animals) responsible for a specific social behavior trait, social attachment. Dr. Lim's work is part of a two decades-old scientific quest for the neural basis of social behavior begun at the NIMH Intramural Research Program in the mid 1980s. Dr. Lim is an MD/PhD candidate at the Center for Behavioral Neuroscience at Emory University, School of Medicine, where she was mentored by Larry Young, PhD. She defended her PhD in March 2004. Upon graduation from medical school in May 2006, Dr. Lim plans to pursue a residency in neurology.

Earl K. Miller, PhD, of MIT has been elected a Fellow of the American Association for the Advancement of Science (AAAS), Section on Psychology. Member researchers are elected as Fellows of the AAAS by their peers in recognition of their efforts to advance science or its applications.

Solomon Snyder, MD, a former trainee of Julius Axelrod, was the recipient of the Julius Axelrod Mentorship Award at the American College of Neuropsychopharmacology meeting in December 2005. The Julius Axelrod Mentorship Award, established in 2004, is presented to a senior scientist each year for outstanding mentorship of young scientists in the field. Many highly successful neuroscientists began their careers in the Snyder lab including Mike Kuhar, Joe Coyle, Anne Young, Candace Pert, Paul Worley, and David Bredt.

Staff Changes

New Arrivals & Changes:

Susannah Allison, PhD, joined the CMHRA in October 2005. As a Program Officer in the program on infants, children and adolescents, she will focus on developing and managing research within the area of HIV prevention as well as on the psychosocial consequences of HIV infection. Dr. Allison was awarded her PhD in clinical child psychology at George Washington University. She has worked extensively in the area of pediatric HIV since 1998 and has been involved in both research and clinical work. She recently traveled to Abuja, Nigeria to provide training to health care professionals working with children and families who are HIV-positive in that country.

Shelli Avenevoli, PhD, joined the Affective & Regulatory Disorders Branch in DPTR as Chief of the Emotion, Mood, and Depressive Disorder Program. Before joining the Extramural Program, Dr. Avenevoli was actively engaged in research on the development of depression, anxiety, and substance use disorders among children and adolescents. She held research scientist positions in the NIMH Intramural Research Program, Mood and Anxiety Disorders Program, and in the Department of Epidemiology and Public Health at Yale University. She received her doctorate in developmental psychology from Temple University and completed an NIMH postdoctoral fellowship in psychiatric epidemiology at Yale University School of Medicine.

Latifa Boyce, MPH, MA, joined the Office of Science Policy, Planning, and Communications (OSPPC) as a Writer/Media Specialist in October 2005. She is working as a member of the press team answering media inquiries and writing news releases and other publications. She earned graduate degrees in health communications and public health (epidemiology) from the University of Minnesota and the George Washington University. Previously, Ms. Boyce worked as a health/medical journalist for print, radio and television outlets and as an injury epidemiologist.

Sandra L. Buckingham joined the Reports and Analysis Branch in the OSPPC as a Psychologist, Program Analysis in August 2005. Ms. Buckingham served eight years on active duty with the U.S. Air Force, and prior to her arrival at NIMH, she served as the Chief, Administrative Services for TRICARE under the Department of Defense.

Marcella Canada joined the Division of Extramural Activities (DEA) in January 2006 and will serve as an Administrative Officer. Ms. Canada transferred to DEA from the NIH Clinical Center/Division of Transfusion Medicine.

Lisa Gilotty, PhD, joined the Neurodevelopmental Disorders Branch in DPTR as Chief of the Social Behavior and Autism Program. Before joining NIMH, Dr. Gilotty was actively involved in research and clinical practice at Children's National Medical Center in Washington, DC. She was a co-investigator for the Baltimore-Washington STAART Center for autism research, and other clinic-based research. Her research has focused on neuropsychological profiles of children and adolescents with autism spectrum disorders. She received her doctorate in developmental psychology from The George Washington University and completed a postdoctoral fellowship at Children's National Medical Center in the Center for Autism Spectrum Disorders.

Christopher Gordon, PhD, has accepted the position of Branch Chief for Secondary HIV Prevention and Translation Research within the Division on AIDS and Health and Behavior Research (DAHBR). Dr. Gordon started at NIMH in 2000 as Program Officer for the Secondary HIV Prevention and Treatment Adherence portfolio, after previously working at Syracuse University on a NIMH-funded HIV prevention project with persons living with severe mental illness. In his new duties, Dr. Gordon will seek to expand investment in the science of community dissemination and implementation of evidenced-based secondary HIV prevention and treatment adherence interventions.

John Grossi, contractor, joined the Molecular, Cellular, and Genomic Neuroscience Branch as a Scientific Program Analyst for the Molecular Libraries and Imaging Roadmap in September 2005. He has been working closely with NIMH and the National Human Genome Research Institute Roadmap staff, and with the NIH MLSCN Project Team on the Molecular Libraries Screening Centers Network (MLSCN) and the Solicitation of Assays for HTS in the MLSCN initiatives. Mr. Grossi received his bachelor's degrees in psychology (Special Honors), history, and philosophy from George Washington University in 2005.

Christine Kaucher, MSW, joined the OSPPC as a contractor in November 2005 and will be focusing on public inquiries. Prior to this position she was a Program Manager for the District of Columbia Department of Human Services.

Penny Kisner joined DAHBR as an Administrative Officer in November 2005. Ms. Kisner has 25 years Federal service.

Michael J. Kozak, PhD, has accepted the position as Branch Chief for the Adult Psychopathology and Psychosocial Intervention Research Branch in DATR. Prior to joining NIMH, Dr. Kozak served as a Scientific Review Administrator for the NIH Center for Scientific Review. In 2001, he accepted a position in NIMH as Chief of the Extramural Review Branch, and in 2004, transferred to the DATR to manage the Affective Processes and Anxiety Disorders Program and the Psychosocial Intervention Efficacy Research Program, both in the Adult Psychopathology and Psychosocial Intervention Research Branch. He served as Acting Branch Chief there during the summer of 2005, and was appointed Branch Chief in September 2005.

Melanie Martinez, MPA, recently joined the Office of Community Relations and Public Liaison (OCRPL) as an Outreach Liaison for the Outreach Partnership Program. Previously, as a Presidential Management Fellow, Ms. Martinez served a one year detail with the U.S. House of Representatives Committee on Appropriations Subcommittee on Labor, DHHS, Education and

Related Agencies. Ms. Martinez also rotated throughout several Institutes at NIH as a fellow. Prior to her fellowship she worked for health advocacy groups at the grass roots level.

George Niederehe, PhD, was appointed to the position of Chief, Geriatrics Research Branch in DATR, after serving as Acting Chief since April 2005. He has had a 30-year career in the aging and mental health field, including 18 years at NIMH. A graduate of the University of Chicago in clinical psychology, prior to coming to NIMH he held staff appointments in the Gerontology Center of the Texas Research Institute of Mental Sciences and at the University of Texas Medical School in Houston. There he conducted NIMH-funded research on age-related memory impairment in depression and on family/caregiving issues in dementia, served on multiple NIMH and NIA study sections, developed and directed several NIMH-funded psychogeriatric training programs (both clinical and research), and provided clinical services to older adults and their families. As a project officer at NIMH since 1987, he has overseen geriatric treatment studies, as well as the STAR*D and other multi-site clinical trials. From 1994 to 1997, he also served as Associate Director for Research Training and Career Development in the Division of Clinical and Treatment Research, and between 1988 and 1993 as the Deputy Executive Secretary for the DHHS Council on Alzheimer's Disease and the federal Advisory Panel on Alzheimer's Disease.

Agu Pert, PhD, joined the Scientific Review Branch of DEA in January 2006. Dr. Pert has been a long-time member of the NIMH Intramural Research Program serving as Chief, Section on Behavioral Pharmacology, Biological Psychiatry. His research has focused on several areas including: neurochemical coding of behavior, conditioned effects of psychoactive drugs, neurobiology of cocaine, CNS sites and mechanism of action of opiates and neuropeptides, reward and punishment mechanisms, central mechanisms of pain and analgesia, and neuroanatomical localization of drug receptors.

Mercedes Rubio, PhD, joined DATR in October 2005 as Assistant Director for Training in the DATR. Prior to joining NIMH, Dr. Rubio was Director of the Minority Affairs Program (MAP), Program Director and co-primary investigator to a NIMH/NIDA T-32 Minority Fellowship Program Grant, and Staff Sociologist at the American Sociological Association. Dr. Rubio received her BA in sociology at California State University, Bakersfield, and her MA and PhD in sociology from the University of Michigan.

Elizabeth Zachariah joined DATR as a Clinical Trials Program Coordinator in October 2005. Prior to joining NIMH, Ms. Zachariah held the position of Director of Clinical Operations for Monitoring Force USA, a clinical research organization.

Departures:

Martha Ann Carey, PhD, RN, a Scientific Review Administrator in the Scientific Review Branch, has accepted a position as Professor and Director of Research at Azusa Pacific University School of Nursing. The school, located near Pasadena, recently established a new PhD program in nursing.

Chuang "Mike" Chiueh, PhD, retired from his position at NIMH in October 2005. Currently, Dr. Chiueh is teaching medical and graduate courses in biology and medicine at the Taipei

Medical University, Taipei, Taiwan and also assisting President Hsu of the Medical University in organizing an Institute of Brain and Aging.

Jennifer Loukissas, a member of the OSPPC Science Writing and Press Team left NIMH in January 2006 to join the Communications Strategy and Programs Branch in the Office of Communications at the National Cancer Institute.

Linda Robbins retired from her position as a Grants Program Specialist in DEA at the end of December 2005.

Sherry Roberts, Administrative Officer in DAHBR, retired from NIMH after 30 years of services.

Karen Shangraw, Chief of the Reports & Analysis Branch, OSPPC, is leaving NIMH after a career with the Institute spanning more than 38 years. Over the years she guided the growth and change of computerized systems that captured information on NIMH grants and contracts. She oversaw the classification of information and the resulting analyses. She will be moving on to consult at the University of Maryland and to take part in a program called Leadership Maryland.

Margaret Strock retired from the Public Information and Communications Branch, OSPPC in late January, after 29 years of Federal service. She had worked in the communications offices at NIDA and the National Eye Institute prior to joining NIMH in l987. In addition to serving as the senior responder to public inquiries, she also excelled at plain language writing, meticulously researching and drafting many of the Institute's pamphlets for the general public, including booklets on autism, medications, bipolar disorder, depression, and OCD.

Carolyn Weedon, an Administrative Officer in DEA, retired from NIMH after 35 years of Federal service.

In Memoriam:

Louis H. Steinberg, EdD, passed away on December 12, 2005. He began his 40-year-long Federal career in 1965 with a brief appointment to the VA in Battle Creek, Michigan. He joined the DHHS Bureau of Health Manpower in 1976, and in 1977, was reassigned to the Health Resources Administration (now the Health Research and Services Administration), where he worked as an education officer. In 1981, he came to the NIH as a Program Analysis Officer for NINDS.

Dr. Steinberg joined NIMH in 1988, when the Institute was still part of the Alcohol, Drug Abuse and Mental Health Administration (ADAMHA), the predecessor to SAMHSA. He spent the next 17 years here, working in a number of different capacities. He began in the Office of Policy Analysis and Coordination in the Office of the Director, where he acted in many roles including Acting Director and Chief of the Constituency Relations Branch. In 1997, Dr. Steinberg became Associate Director for Small Business Innovation Research/Small Business Technology Transfer Research (SBIR/STTR) in the Division of Mental Disorders, Behavioral Research, and AIDS. From 2004 until his death, he served as Associate Director for SBIR/STTR for NIMH's DAHBR

and DATR. Concurrently, since 1997, he also served as Chief for the Technology Transfer Program in the CMHRA.

Outside of his work at the Institute, Lou Steinberg was an avid golfer and hiker, and a devoted son, husband, father of three children, and grandfather to six grandchildren. He loved to vacation in Hawaii with his family.

Many who had the opportunity to work closely with Dr. Steinberg will say that he always gave his best, and his tenure at NIMH of almost two decades made him a great friend to many in the Extramural Program. He will be greatly missed.