

Dear Colleague,

We would like to take this opportunity to update you on some of the exciting clinical and research endeavors of the past year within the Departments of Psychiatry at NewYork-Presbyterian Hospital. Comprehensive care is provided in the full range of psychiatric disorders affecting children, adolescents, and adults. Clinical programs are complemented by extraordinary research initiatives that seek to further the understanding of mental illness and advance treatments for patients. The Hospital's affiliations with Columbia University College of Physicians and Surgeons, the New York State Psychiatric Institute, and Weill Cornell Medical College continue to provide our physicians and researchers with important opportunities that not only lead to the development of new therapies, but also facilitate interdisciplinary collaborations that enable the examination of the biological and neurological underpinnings of these challenging disorders.



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Faculty News

At NewYork-Presbyterian/Columbia:

For the seventh year in a row Columbia Psychiatry again ranked #1 in the nation in NIH funding, with \$69.8 million from combined grants received by faculty through the Research Foundation of Mental Hygiene and Columbia University Department of Psychiatry.

With funding from the New York State Office of Mental Health for the First Episode Psychosis Initiative, **Lisa B. Dixon, MD, MPH**, the Director of the Center for Practice Innovation at the New York State Psychiatric Institute, will oversee the implementation of four demonstration sites in the downstate New York area.

Maria A. Oquendo, MD, was elected President-Elect of the International Academy of Suicide Research. Dr. Oquendo's research focuses on the diagnosis, pharmacologic treatment and neurobiology of bipolar disorder and major depression, with a special focus on suicidal behavior, as well as cross-cultural psychiatry.

Maira Rynn, MD, was appointed Chief of the Division of Child and Adolescent Psychiatry. Dr. Rynn's research has contributed to the treatment of pediatric anxiety and mood disorders. Her current program focuses on efforts to improve therapies for children and adolescents with treatment refractory mood and anxiety disorders, examining the efficacy and safety of experimental pharmacologic agents, as well as combination treatments with medication and psychotherapy.

At NewYork-Presbyterian/Weill Cornell:

Gerard C. Addonizio, MD, was awarded the American Psychiatric Association's 2012-2013 Irma Bland Award for Excellence in Teaching Residents for outstanding and sustaining contributions to resident education in psychiatry.

Martha L. Bruce, PhD, MPH, Co-Director for the Weill Cornell Advanced Research Center in Geriatric Mental Health, received the 2013 American Association for Geriatric Psychiatry Distinguished Scientist Award.

Francis S.Y. Lee, MD, PhD, Vice Chair for Research in the Department of Psychiatry, was elected a member of the American College of Neuropsychopharmacology – the nation's premier professional society in brain, behavior, and psychopharmacology research.

Barbara L. Milrod, MD, received the first Leon Kupferstein Memorial Award for Innovation in Psychoanalysis from the New York Psychoanalytic Society and Institute.

David M. Snead, a fifth-year MD-PhD student in the laboratory of David Eliezer, PhD, Department of Biochemistry, Weill Cornell, was awarded a coveted National Institutes of Health fellowship from the National Institute of Mental Health. His study aims to characterize the interaction of the critical presynaptic protein complexin with phospholipid bilayers and to understand how this interaction contributes to synaptic function.

Program Highlights

In June 2013, NewYork-Presbyterian Hospital, along with its affiliated medical schools, Weill Cornell Medical College and Columbia University College of Physicians and Surgeons, marked the opening of the new *Center for Autism and the Developing Brain*, located at the Hospital's Westchester campus in White Plains, New York. At a time when more children are being identified with an autism spectrum disorder (ASD) than ever before, the Center is a valuable resource for children and their families.



The new 11,000-square-foot facility is the result of 10 years of planning and \$11 million raised by donations in partnership with New York Collaborates for Autism, a nonprofit organization focused on effecting systems change in autism service delivery, with additional major support from Jim and Marilyn Simons, Autism Speaks, and the Mortimer D. Sackler Foundation. Built in a historic former gymnasium, the Center communicates openness and flexibility throughout with 30-foot high ceilings, natural lighting, and other design features.

Under the direction of Catherine Lord, PhD, one of the foremost experts in the diagnosis and treatment of ASD, the Center provides comprehensive services to people with ASD at every stage of life, from infancy through adulthood. Dr. Lord, a clinical psychologist, is renowned for her work in longitudinal studies of children with autism, as well as for her role in developing the autism diagnostic instruments used in both practice and in research worldwide today.

According to Dr. Lord, the Center's focus on the lifespan and on interdisciplinary, evidence-based assessment and treatment is an innovative approach not commonly found at even the most highly respected programs in the country. The Center will streamline the process from diagnosis to treatment and maximize the usefulness of information gained from multilevel assessments. By evaluating the strengths and weaknesses of each patient, and by monitoring and measuring that individual's response to a variety of approaches, the clinicians will fine-tune their ability to deliver the best possible short-term treatments. The Center's integrated treatment approach affords patients a combination of expanded applied behavior analysis and other targeted therapies to improve

social communication and motor and adaptive skills. The interdisciplinary staff includes psychiatrists, psychologists, speech and language therapists, behavior and education specialists, social workers, and occupational therapists, along with consultants from other areas of medicine.

The Center for Autism and the Developing Brain also has a vigorous research and training program, conducting collaborative basic and clinical research with the M.I.N.D. Institute at the University of California-Davis, UCLA's Autism Center, Mailman School of Public Health at Columbia University Medical Center, the Centers for Disease Control and Prevention, University of Michigan, Kings College in London, and Florida State University, among others. DNA samples from consented patients are routinely shared with consortia of geneticists in an effort to identify genetic biomarkers of autism.

Research Initiatives

At NewYork-Presbyterian/Columbia:

Glutamatergic Abnormalities in Schizophrenia: A Review of Proton MRS Findings. The last 15 years have seen a great increase in the understanding of the role of glutamate in schizophrenia (SCZ). The glutamate hypothesis focuses on disturbances in brain glutamatergic pathways and impairment in signaling at glutamate receptors. Proton Magnetic Resonance Spectroscopy ((1)H-MRS) is an MR-based technique that affords investigators the ability to study glutamate function by measuring *in vivo* glutamatergic indices in the brains of individuals with SCZ. (1)H-MRS studies have been performed comparing glutamatergic levels of individuals with SCZ and healthy control subjects or studying the effect of antipsychotic medications on glutamatergic levels. In this article, Columbia researchers summarize the results of these studies by brain region and review the contribution of (1)H-MRS studies to knowledge about glutamatergic abnormalities in the brains of individuals with SCZ, as well as discuss the implications for future research and clinical care. [*Schizophrenia Research*. 2014 Feb;152(2-3):325-32.]

Confronting Fear Using Exposure and Response Prevention for Anorexia Nervosa. Anorexia nervosa (AN) is a severe illness with high rates of relapse. Exposure and Response Prevention for AN (AN-EXRP) is a new approach that specifically addresses maladaptive eating behavior by targeting eating-related fear and anxiety. Evelyn Attia, MD, Director of the Columbia Center for Eating Disorders, and colleagues undertook a study to evaluate AN-EXRP as an adjunctive strategy to improve eating behavior during weight restoration, at a pivotal moment when treatment goals shift toward relapse prevention. They conducted a randomized controlled trial to compare AN-EXRP with a comparison condition, Cognitive Remediation Therapy. Caloric intake was used as an objective assessment of eating behavior. Study results demonstrated that AN-EXRP, compared to a credible comparison intervention, is associated with better caloric intake in a laboratory meal over time. [*International Journal of Eating Disorders*. 2014; 47:174-80.]

New Directions for Comparative Effectiveness Research. According to a study in the June 2013 issue of *Health Affairs*, there has been a decline in the extent to which new medical treatments are shown to be significantly more effective than placebos. The findings, says study co-author Mark Olfson, MD, MPH, Co-Director of the AHRQ Center for Education and Research on Mental Health Therapeutics in the Department of Psychiatry, suggest that medical breakthroughs that offer large benefits above placebo are becoming less common. As a result, now may be a good time to emphasize research that compares established treatments with one another.

The researchers randomly selected and analyzed 315 placebo-controlled trials that were reported in four leading medical journals between 1966 and 2010. They found that the average effect size, as measured by the odds ratio decreased from a peak of 4.51 (1971-1980) to 1.36 (2001-2010). While placebo-controlled studies are considered to be the gold standard for establishing efficacy, the dwindling effect size over the more than 40-year period supports the view that renewed attention should be given to research that compares treatments already known to be effective in terms of outcomes that matter most to patients. [*Health Affairs*. 2013 Jun;32(6):1116-25.]

The Center for Research on the Ethical, Legal and Social Implications of Psychiatric, Neurologic and Behavioral Genetics. Columbia University Medical Center was recently awarded a five-year grant from the National Human Genome Research Institute to establish the Center for Research on the Ethical, Legal and Social Implications of Psychiatric, Neurologic and Behavioral Genetics led by Paul S. Appelbaum, MD, Director of the Division of Law, Ethics and Psychiatry. The Center, based in the Department of Psychiatry, brings together clinicians and researchers from across the medical center, along with colleagues from the Hastings Center, a research institute that addresses fundamental ethical questions in health, medicine, and the environment.

As understanding of the genetic contributions to psychiatric, neurologic, and behavioral (PNB) traits and disorders advances, the knowledge is being quickly translated into clinical practice. The nature of PNB genetic information, however, raises complex questions about the impact the data will have in both clinical and non-clinical settings.

It is critical to examine the impact of PNB genetic information on patients, healthcare professionals, and public policy. The Center will focus on the impact of PNB genetic information on patients, family members, and clinicians, including effects on causal attributions, treatment choices, health and lifestyle decisions, identity, and self-image. The second area of focus is the impact of PNB genetic information in non-clinical contexts in which it may affect perceptions of autonomy and responsibility for behavior, both in the judicial process and in everyday life. The Center will also draw on data collected by its researchers and others to suggest how PNB genetic information should influence policy in clinical, research, and social contexts.

At NewYork-Presbyterian/Weill Cornell:

Enhancing Treatment for PTSD. More than a decade after the 2001 attack on the World Trade Center, some New Yorkers cannot fly because they are afraid of airplanes, or they avoid all tall buildings or cannot set foot in Lower Manhattan. Their posttraumatic stress disorder (PTSD) is unrelenting. Even today, rates of chronic PTSD in survivors hover around 13 percent. A pilot study led by JoAnn Difede, PhD, Director of the Program for Anxiety and Traumatic Stress Studies at Weill Cornell, found that the majority of patients who received the medication D-cycloserine in combination with virtual reality exposure therapy (VRE) went into remission during treatment and stayed in remission through the six months of the study. The study was the first to test the use of D-cycloserine with virtual reality exposure therapy for PTSD taking an unusual approach to treatment by using the medication to enhance the learning that occurred during the psychotherapy, rather than the traditional strategy of using medication to relieve symptoms. [*Neuropsychopharmacology*. 2013 Nov 12. Epub ahead of print]

Examining a Common Gene Linked to Depression, Anxiety, and Memory Loss. A team of Weill Cornell investigators, led by William C. Bracken, PhD, Director of the Nuclear Magnetic Resonance facility, Barbara L. Hempstead, MD, PhD, Professor of Medicine, and Francis S.Y. Lee, MD, PhD, Vice Chair for Research in the Department of Psychiatry, have discovered why a tiny alteration in a brain gene, found in 20 percent of the population, contributes to the risk for anxiety, depression, and memory loss. Their discovery describes new functions for the alteration, a single nucleotide polymorphism in the brain-derived neurotrophic factor (BDNF) gene, which occurs when a single "letter" of BDNF's genetic code is "misspelled." The alteration appears to induce shrinkage of neurons from the hippocampus – an important region for memory and emotion – reducing connectivity between brain cells. Targeted treatment for the genetic alteration could provide the first true benefit for affected patients, who often don't respond to traditional treatments. [*Nature Communications*. 2013;4:2490.]

Tailoring Intervention for People with Depression and Severe COPD. Chronic obstructive pulmonary disease (COPD) is often complicated by depression and exemplifies the challenge in managing chronic illnesses that require active patient participation in care. In a clinical trial led by George S. Alexopoulos, MD, Director, Weill Cornell Institute of Geriatric Psychiatry, researchers compared a novel personalized intervention for depression and COPD targeting treatment adherence with treatment as usual. In 138 patients with major depression and severe COPD, the personalized intervention led to a higher remission rate and a greater reduction in depressive symptoms and in dyspnea-related disability than the treatment as usual over 28 weeks and six months after the last session. If replicated, the new approach of personalized intervention for depression may serve as a care model for patients with both depression and medical illnesses with a deteriorating course. [*British Journal of Psychiatry*. 2013 Mar;202(3):235-6.]

**Psychiatry
Update****Winter 2014**

Study Shows Teens are Drawn to Danger. A finding by Weill Cornell scientists that has shown that adolescents react more impulsively to threats than either adults or children has important implications for helping teens understand and overcome potentially dangerous behaviors. In the study, 83 test subjects from ages 6 to 29 were presented with images of neutral or threatening facial expressions while undergoing functional magnetic resonance imaging. Taken together, the findings suggest that teens' proclivity for danger is the result of changes in the brain that occur specifically at that age. According to B.J. Casey, PhD, Director of the Sackler Institute for Developmental Psychobiology and a co-senior author on the study, the responses to threats were on the order of milliseconds, and therefore even teaching teens strategies to take a deep breath before acting could have potential implications for their safety. The research may also help explain why teens have more accidents as well as deaths from suicide than people in other age groups. There is a 200 percent increase in mortality during adolescence that is not due to an increased risk for disease, but rather to preventable causes of accidental injury, homicide, and suicide. The collaborative study's results were presented at the annual meeting of the Society for Neuroscience.

**American Psychiatric Association
167th Annual Meeting****May 3-7, 2014
New York, NY***Special Dialogue on Science, Psychiatry and Media*
Sunday, May 4, 2014
4:30 to 6:45 pm**Jeffrey A. Lieberman, MD**
*President, APA**Psychiatrist-in-Chief**New York-Presbyterian/Columbia University Medical Center
Director, New York State Psychiatric Institute***Eric R. Kandel, MD**
*Nobel Laureate**Director, The Kavli Institute for Brain Science
Co-Director, Mortimer B. Zuckerman Mind Brain Behavior Institute
Columbia University Medical Center***Alan Alda**
Actor, Director, Screenwriter, and Author