

## NIMH Update for Outreach Partners

### NIMH Outreach Partnership Program 2011 Annual Meeting: Presentation by Thomas Insel, M.D., Director, National Institute of Mental Health

**March 24, 2011**  
**Houston, Texas**

Thomas Insel, M.D., Director of the National Institute of Mental Health (NIMH), concluded the NIMH Outreach Partnership Program's 2011 Annual Meeting with an update on high priority research projects at NIMH, and with highlights of scientific advancements that are breaking new ground in mental health research. Dr. Insel emphasized that NIMH recognizes the urgent need for services and interventions to help the millions of Americans who are currently living with a mental illness, while stressing the value of the Institute's basic science portfolio.

"This research is the critical way, maybe the only way, to turn the tide," Dr. Insel said, noting that NIMH-funded researchers are publishing important studies every week. Dr. Insel proceeded to highlight several innovative initiatives that the Institute is currently supporting.

- *The Army STARRS (Study to Assess Risk and Resilience in Service Members) project, in collaboration with the U.S. Department of Defense.* The Army has partnered with NIMH to gain a better understanding of the disproportionate rates of suicide among military service members. One activity of the Army STARRS project is an analysis of existing Army data involving approximately 350 soldiers who committed suicide, to determine whether there were any obvious risk factors that set them apart from other service members. From this very preliminary analysis we're seeing a high number of suicides in soldiers who have never been deployed; however, suicide rates are highest among currently and previously deployed service members. The study suggests that Asian American soldiers have disproportionately high rates of suicide, especially during and after deployment, and that deployed women have a greater risk than non-deployed women.<sup>1, 2</sup> The STARRS study is ongoing, and should offer some interesting results applicable beyond the Armed Forces.
  - "What's been fascinating about this is that all of us went into the study thinking we knew the answer," said Dr. Insel. "But we're learning it's really complicated and it's not going to have a simple answer. In the same way the Army serves us in the trenches, they are going to be able to serve us by taking something that right now seems like a military problem, and help[ing] the rest of the country understand how to address it as a civilian problem."

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<sup>1</sup> Army STARRS Preliminary Data Reveal Some Potential Predictive Factors for Suicide. March 22, 2011 NIMH Science News. <http://www.nimh.nih.gov/science-news/2011/army-starrs-preliminary-data-reveal-some-potential-predictive-factors-for-suicide.shtml>

<sup>2</sup> NIMH calculations using data from Total Army Injury and Health Outcomes Database on Regular Army Soldiers. (<http://www.usariem.army.mil/pages/taihod.htm>)

- *Recovery After an Initial Schizophrenia Episode (RAISE)*. RAISE is testing whether early, aggressive, and pre-emptive intervention has the power to slow or even halt the deterioration seen in schizophrenia (<http://www.nimh.nih.gov/health/topics/schizophrenia/raise/index.shtml>). Current interventions for schizophrenia focus on psychosis—but that may be too late. By targeting patients after the first episode, the program has the power to not only help individuals suffering from schizophrenia, but also lessen the costs associated with the disorder.
  - “We know about the importance of getting in there early with cancer, heart disease, hypertension, and everything else,” said Dr. Insel. “We want to get in as early as possible in the process of this disorder, too. This can be a game changer, if we can do it in the right way.”
- *National Co-morbidity Survey-Adolescent (NCS-A) Supplement*. Results from the NCS-A showed that 50 percent of adolescents with “severe” mental disorders never received services.<sup>3</sup>
  - “This is where we could have the most impact and, yet, we’re still not doing it. Not even close,” Dr. Insel said. “It’s important to get people to understand this is a problem that is growing and needs more attention than ever.”
- *The Next Frontier*. Former U.S. Congressman Patrick Kennedy’s (D-RI) new initiative, The Next Frontier (<http://www.moonshot.org>), is focusing on mental health. The initiative includes plans to build support for research-focused programs and interventions.
  - “[Mr. Kennedy] wants to create a ‘moon-shot’ for the mind,” said Dr. Insel. “It’s not so much about any specific illness, but about trying to create a good knowledge base.”

Dr. Insel also pointed out some of the newest scientific efforts that he believes hold the greatest promise in moving the understanding of mental illness and mental health forward.

- *The Human Connectome*. The brain is a complex organ—and it is challenging to understand how the brain develops and functions. The Human Connectome project (<http://www.humanconnectomeproject.org/>) is trying to advance our understanding of how different brain circuits are connected in terms of function, by putting together magnetic resonance imaging scans of thousands of individuals.<sup>4</sup>
  - “You’ll see individual variation depending on age, gender and, in some cases, diagnosis. The hope is that this Connectome, paired with the human genome map, will help clinicians better diagnose mental illness in the future.”<sup>5</sup>

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<sup>3</sup> Merikangas KR, HE J-P, Burstein M, Swendsen J, Avenevoli S, Case B, Georgiades K, Heaton L, Swanson S and Olfson M. Service utilization for lifetime mental disorders in U.S. adolescents: Results of the National Comorbidity Survey-Adolescent Supplement (NCS-A). *J Am Acad Child Adolesc Psychiatry*. 2011 Jan;50(1):32-45. Epub 2010 Dec 3. <http://www.ncbi.nlm.nih.gov/pubmed/21156268>

<sup>4</sup> Biswal BB, Mennes M, Zuo XN, et al. *Proc Natl Acad Sci U S A*. 2010 Mar 9;107(10):4734-9. Epub 2010 Feb 22. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2842060/>

<sup>5</sup> Meyer-Lindenberg A, Weinberger DR. Intermediate phenotypes and genetic mechanisms of psychiatric disorders. *Nature Reviews Neuroscience*. 2006 Oct;7(10):818-827. <http://www.ncbi.nlm.nih.gov/pubmed/16988657>

- *Neural Signatures of Autism.* A recent study comparing children with autism with their non-autistic siblings has demonstrated that the normal siblings' brains have more in common with their autistic brother or sister than normal controls—but they also have a unique brain signature that may be compensatory. A better understanding of this compensatory mechanism may uncover a pathway to recovery.<sup>6,7</sup>
  - “What is said is that both siblings have genetic loading for the disease but the unaffected sibling is able to generate some mechanism that offsets this risk that the kids with the disease can't do.”
- *Collaborative Care for Patients with Depression and Chronic Illnesses.* An innovative study offering collaborative care for depression, heart disease, and diabetes has offered very promising outcomes.
  - “It's something we've understood for a while yet, over the years, we've kept these interventions separate,” said Dr. Insel. “But this study shows when you put collaborative care together and treat depression at the same time as heart disease and diabetes, the effects seen in heart disease and diabetes are even better—the blood pressure control is better, the glucose control is better, and the depression is better.”<sup>8</sup>

In closing, Insel discussed the high level of enthusiasm in neuroscience and related fields. Despite the difficulties seen in funding right now, the science, he argued, “...has just never been better.” It is his hope that this science will continue its current high level of remarkable progress, and together with rapid advances in technology, move to swift implementation for the direct benefit of all people whose lives have been adversely affected by mental illness and substance use addictions.

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<sup>6</sup> Kaiser MD, Hudac CM, Shultz S, Lee SM, Cheung C, Berken AM, Deen B, Pitskel NB, Sugrue DR, Voos AC, Saulnier CA, Ventola P, Wolf JM, Klin A, Vander Wyk BC, Pelphrey KA. Neural signatures of autism. *Proc Natl Acad Sci U S A*. 2010 Dec 7;107(49):21223-8. Epub 2010 Nov 15. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3000300/>

<sup>7</sup> Scott-Van Zeeland AA, Abrahams BS, Alvarez-Retuerto AI, et al Altered functional connectivity in frontal lobe circuits is associated with variation in the autism risk gene CNTNAP2. *Sci Transl Med*. 2010 Nov 3;2(56):56ra80. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3065863/>

<sup>8</sup> Katon WJ, Lin EH, Von Korff M, et al. Collaborative care for patients with depression and chronic illnesses. *N Engl J Med*. 2010 Dec 30;363(27):2611-20. <http://www.ncbi.nlm.nih.gov/pubmed/21190455>