NATIONAL INSTITUTE OF MENTAL HEALTH

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Mission:
The National Institute of Mental Health (NIMH) faces an enormous challenge: to reduce the burden of mental and behavioral disorders through research on mind, brain, and behavior. NIMH's goal is to generate research that will transform the prevention of, and recovery from, mental disorders. To achieve this, especially in a time of slower budgetary growth, NIMH is carefully reassessing strategic priorities for the Institute. High priority will go to studies of the pathophysiology of mental disorders and studies that may lead to new interventions aimed at reducing the tremendous burden they pose. Much of the basic science funded may not be immediately ready for translation; yet it will address basic questions about behavior, brain, and experience that are informed by and, in turn, inform the understanding of mental disorder, recovery, or resilience. Working closely with its major stakeholders, researchers, Advisory Council members, and experts in the field, NIMH leadership has reevaluated priorities and reorganized its extramural research program structure into five divisions (from the previous three). There will be a clear focus on research that meets the following criteria: relevance to mental disorders, traction (meaning those ideas poised to make the biggest difference) and innovation. This will facilitate quicker exploitation of recent scientific breakthroughs, increase cross-disciplinary collaboration, and facilitate translation of basic science discoveries into new interventions. Some planned efforts include: developing biologically based markers for mental illnesses, which will transform diagnosis and treatment; developing and testing new treatments for young children with autism; and developing tools to understand the impact of hormonal changes on mood and cognition over the lifespan.

The need is vast: mental disorders account for four of the top five causes of premature death and disability among 15-44 year olds in the Western world. For many of the disorders, there is some form of treatment; for most, there is no cure. Even for the disorders for which treatment can be extremely successful, too many people are still not getting access to them. For instance, about 16 percent of Americans ages 15-54 have experienced major depression in their lifetimes. Just over half of those experiencing it in the past year received treatment. While this is an improvement from previous years, it indicates the need for progress in treatment delivery. Suicide is another real and enduring threat. While suicide rates are lower than they were 30 years ago, they are still alarming. Thirty thousand people die through suicide each year, far more Americans than die from homicide. Suicide is high among several ethnic minority groups, and is rising in youth. NIMH is particularly committed to reducing the rates of adolescent depression and suicide, as well as increasing the effective dissemination and implementation of treatment and services.

Selected Achievements and Initiatives:
Imaging Reveals Human Brain Regions Involved In Extinguishing Fear: Effective treatment for post-traumatic stress disorder (PTSD), obsessive-compulsive disorder (OCD), and other anxiety disorders requires an understanding of

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the brain systems that control fear. It is important to comprehend both the acquisition and extinction of pathological fear responses. For example, if a child falls when learning to ride a bike, he or she may be afraid to try again. However, this fear will eventually dissipate when the child later rides without falling — that's extinction. Studies in both animals and humans indicate that the extinction of a previously learned fear represents a new form of learning rather than the forgetting of the original fear. A new memory is formed that competes with and suppresses the original fearful memory. Scientists have hypothesized that different brain regions control the initial acquisition and subsequent extinction of fear responses. In a recent study supported by NIMH, researchers used functional magnetic resonance imaging (fMRI) to examine the brain activation patterns in humans during the acquisition and extinction of fear responses. The scientists found that activity in the amygdala, a region critical for emotion, correlated with the acquisition and early extinction of the initial fear response, while activity in another brain area associated with the regulation of higher cognitive function, correlated with longer-term extinction. Activity in this region was predictive of how well the subjects remembered the extinction training. This translational study is the first to demonstrate the importance of this brain region for fear extinction in humans. The knowledge of how fears are acquired and diminished will provide important contributions to the understanding and treatment of anxiety disorders.

New Program Builds on Successes in Schizophrenia Research: Schizophrenia research at NIMH this year has seen exceptional progress, revealing at least a partial blueprint of the genes that place individuals at an increased risk for the disease. NIMH intramural researchers have made some of the seminal discoveries in this area, with studies of COMT, BDNF, and several glutamate receptor-related genes that appear to contribute to the development of schizophrenia. However, it is clear that the road from gene discovery to prevention and treatment is neither simple nor rapid. To accelerate this process, NIMH has laid the groundwork for a new initiative within the intramural program. Over the next decade, this new multi-disciplinary initiative will expand upon the findings of the genetics research to reveal how these genetic alterations affect the neurobiology and ultimately lead to impaired cognition and psychosis. Using the newly identified susceptibility genes as a starting point, this multidisciplinary team will use mouse and cell culture models, postmortem human tissue, clinical studies, and brain imaging to examine the role of these genes at the molecular, cellular, and systems levels. Findings emerging from the fast-track intramural effort will serve to stimulate spin-off studies by extramural researchers.

Appropriations History
($ in thousands)

FY 2001	$1,106,305 (+13.7%)
FY 2002	$1,246,640 (+12.7%)
FY 2003	$1,341,014 (+7.6%)
FY 2004	$1,381,774 (+3.0%)
FY 2005	$1,411,933 (+2.2%)

Extramural Research Project Grants
(Includes SBIR/STTRs)

FY 2001	2,030
FY 2002	2,176
FY 2003	2,260
FY 2004	2,339
FY 2005	2,314

Success Rate — Research Project Grants

FY 2001	31%
FY 2002	27%
FY 2003	27%
FY 2004	24%
FY 2005	21%

Research Training Positions Supported

FY 2001	1,583
FY 2002	1,589
FY 2003	1,575
FY 2004	1,532
FY 2005	1,487

Research Centers

FY 2001	51
FY 2002	56
FY 2003	62
FY 2004	67
FY 2005	71