

DEPARTMENT OF HEALTH AND HUMAN SERVICES

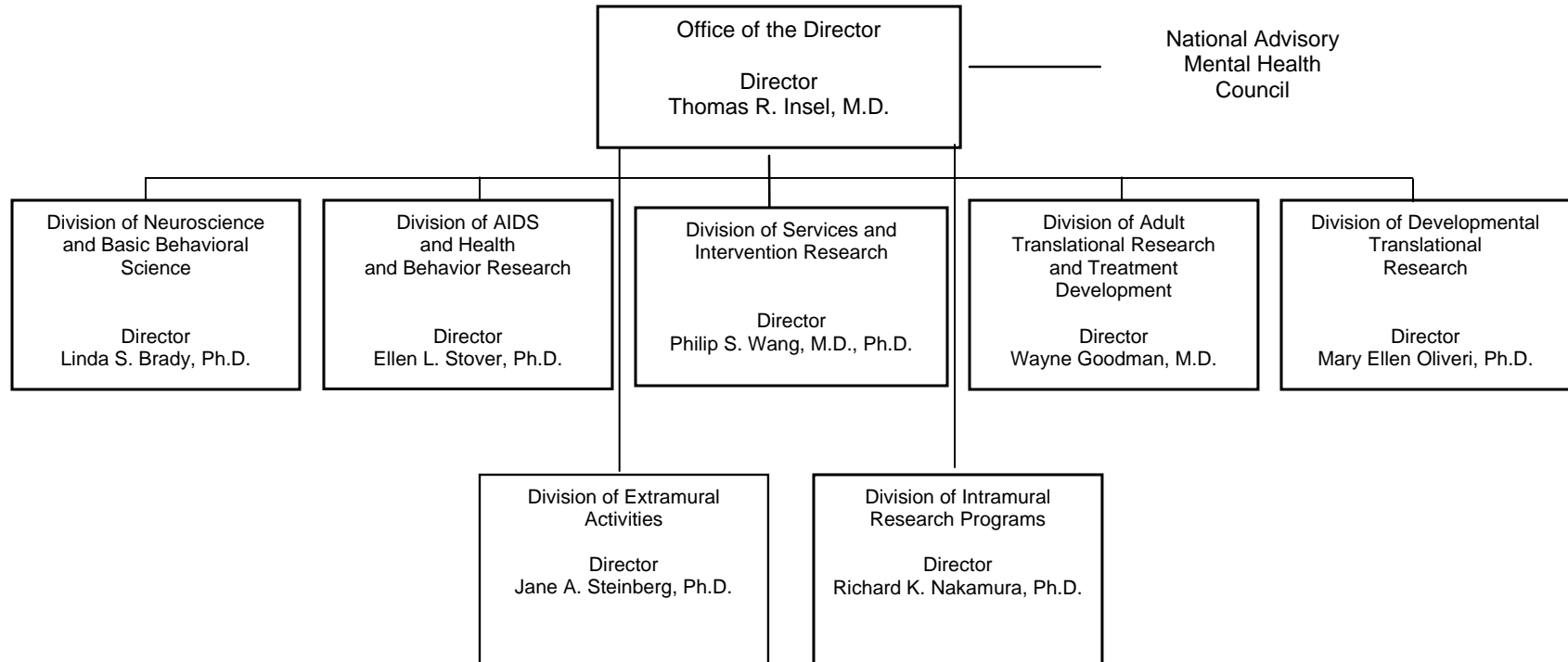
NATIONAL INSTITUTES OF HEALTH

National Institute of Mental Health (NIMH)

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DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health  
National Institute of Mental Health



NIMH - 2

## **NATIONAL INSTITUTES OF HEALTH**

### National Institute of Mental Health

For carrying out section 301 and title IV of the Public Health Services Act with respect to mental health [\$1,450,491,000], \$1,474,676,000 (Department of Health and Human Services Appropriation Act, 2009)

**National Institutes of Health  
National Institute of Mental Health**

**Amounts Available for Obligation 1/**

Source of Funding	FY 2008 Actual	FY 2009 Estimate	FY 2010 PB
Appropriation	\$1,429,466,000	\$1,450,491,000	\$1,474,676,000
Rescission	-24,973,000	0	0
Supplemental	7,475,000	0	0
Subtotal, adjusted appropriation	1,411,968,000	1,450,491,000	1,474,676,000
Real transfer under Director's one-percent transfer authority (GEI)	1,590,000	0	0
Comparative transfer under Director's one-percent transfer authority (GEI)	-1,590,000	0	0
Comparative transfer from DHHS for Autism	983,000	0	0
Subtotal, adjusted budget authority	1,412,951,000	1,450,491,000	1,474,676,000
Unobligated balance, start of year	0	0	0
Unobligated balance, end of year	0	0	0
Subtotal, adjusted budget authority	1,412,951,000	1,450,491,000	1,474,676,000
Unobligated balance lapsing	0	0	0
Total obligations	1,412,951,000	1,450,491,000	1,474,676,000

1/ Excludes the following amounts for reimbursable activities carried out by this account:  
 FY 2008- \$4,469,000 FY 2009 Estimate - \$15,000,000 FY 2010 Estimate - \$15,000,000  
 Excludes \$561,128 Actual in FY 2008; Estimate \$450,000 in FY 2009 and Estimate \$450,000 in FY 2010 for royalties.

**NATIONAL INSTITUTES OF HEALTH**

**National Institute of Mental Health**

(Dollars in Thousands)

Budget Mechanism - Total

MECHANISM	FY 2008		FY 2009		FY 2010		Change	
	Actual		Estimate		PB			
	No.	Amount	No.	Amount	No.	Amount	No.	Amount
Research Grants:								
<u>Research Projects:</u>								
Noncompeting	1,605	\$584,153	1,604	\$636,885	1,505	\$636,503	-99	-\$382
Administrative supplements	(64)	5,370	(19)	1,617	(16)	1,571	(-3)	-46
Competing:								
Renewal	92	46,761	78	40,835	83	44,322	5	3,487
New	477	166,028	412	148,030	434	158,985	22	10,955
Supplements	4	637	4	656	4	669	0	13
Subtotal, competing	573	213,426	494	189,521	521	203,976	27	14,455
Subtotal, RPGs	2,178	802,949	2,098	828,023	2,026	842,050	-72	14,027
SBIR/STTR	87	27,888	85	27,946	84	28,485	-1	539
Subtotal, RPGs	2,265	830,837	2,183	855,969	2,110	870,535	-73	14,566
<u>Research Centers:</u>								
Specialized/comprehensive	74	122,777	74	126,092	74	127,983	0	1,891
Clinical research	0	0	0	0	0	0	0	0
Biotechnology	0	160	0	160	0	162	0	2
Comparative medicine	0	186	0	186	0	189	0	3
Research Centers in Minority Institutions	0	0	0	0	0	0	0	0
Subtotal, Centers	74	123,123	74	126,438	74	128,334	0	1,896
<u>Other Research:</u>								
Research careers	432	66,300	431	68,090	431	69,111	0	1,021
Cancer education	0	0	0	0	0	0	0	0
Cooperative clinical research	5	4,422	5	878	2	1,568	-3	690
Biomedical research support	0	0	0	0	0	0	0	0
Minority biomedical research support	0	0	0	0	0	0	0	0
Other	133	38,564	133	39,605	133	40,199	0	594
Subtotal, Other Research	570	109,286	569	108,573	566	110,878	-3	2,305
Total Research Grants	2,909	1,063,246	2,826	1,090,980	2,750	1,109,747	-76	18,767
<u>Research Training:</u>								
Individual awards	283	10,352	283	10,422	283	10,526	0	104
Institutional awards	859	36,905	859	37,156	859	37,528	0	372
Total, Training	1,142	47,257	1,142	47,578	1,142	48,054	0	476
Research & development contracts (SBIR/STTR)	202 13	66,014 4,424	206 (13)	70,061 (4,563)	206 (13)	71,201 (4,631)	0 (0)	1,140 (68)
Intramural research								
Research management and support								
Construction								
Buildings and Facilities								
Total, NIMH	623	1,412,951	628	1,450,491	641	1,474,676	13	24,185

Includes FTEs which are reimbursed from the NIH Roadmap for Medical Research

**NATIONAL INSTITUTES OF HEALTH**  
**National Institute of Mental Health**  
**BA by Program**  
(Dollars in thousands)

	FY 2006 Actual		FY 2007 Actual		FY 2008 Actual		FY 2008 Comparable		FY 2009 Estimate		FY 2010 PB		Change	
	FTEs	Amount	FTEs	Amount	FTEs	Amount	FTEs	Amount	FTEs	Amount	FTEs	Amount	FTEs	Amount
<b>Extramural Research</b>														
<u>Detail:</u>														
Health, Behavior & AIDS Research		\$205,958		\$199,268		\$217,502		\$217,502		\$223,437		\$225,551		\$2,114
Adult Translational Research & Treatment Development		246,544		259,552		257,334		257,334		264,356		266,857		2,501
Developmental Translational Research		136,911		127,334		127,321		127,321		130,795		136,774		5,979
Neuroscience & Basic Behavioral Science		403,739		387,144		399,838		398,248		409,114		417,192		8,078
Services & Intervention Research		184,828		200,745		176,112		176,112		180,917		182,628		1,711
<b>Subtotal, Extramural</b>		1,177,980		1,174,043		1,178,107		1,176,517		1,208,619		1,229,002		20,383
<b>Intramural research</b>	384	159,926	377	162,192	385	168,436	385	168,436	385	172,310	385	174,895	0	2,585
<b>Res. management &amp; support</b>	232	64,645	238	66,150	238	67,998	238	67,998	243	69,562	256	70,779	13	1,217
<b>TOTAL</b>	616	1,402,551	615	1,402,385	623	1,414,541	623	1,412,951	628	1,450,491	641	1,474,676	13	24,185

Includes FTEs which are reimbursed from the NIH Roadmap for Medical Research

## Major Changes in the Fiscal Year 2010 Budget Request

Major changes by budget mechanism and/or budget activity detail are briefly described below. Note that there may be overlap between budget mechanism and activity detail and these highlights will not sum to the total change for the FY 2010 budget request for NIMH, which is \$24.185 million over the FY 2009 estimate, for a total of \$1,474.676 million.

Research Project Grants (+\$14.566 million; total \$870.535 million): NIMH will support a total of 2,110 RPG awards in FY 2010. Non-competing RPGS will decrease by 99 awards and decrease by \$.382 million. Competing RPGs will increase by 27 awards and increase by \$14.455 million. The NIH Budget policy for RPGs in FY 2010 provides a 2% inflationary increase in noncompeting awards and a 2% increase in the average cost for competing RPGs.

Adult Translational Research and Treatment Development Program (+\$2.501 million; total \$266.857 million): NIMH will support research on novel approaches to identify, characterize, and validate biomarkers and/or biosignatures (integrated profiles of biomarkers and behavioral indicators) of major mental disorders. For conditions such as diabetes and cardiovascular disease, biomarkers are available for use in routine medical practice of diagnosis, prevention, and treatment. However, despite tremendous progress in basic neuroscience, no biomarkers have been developed with established clinical use in the management of major mental disorders. This initiative aims to break this logjam by reaching beyond NIMH's typical applicant pool and encouraging innovation.

Developmental Translational Research Program (+\$5.979 million; total \$136.774 million): NIMH will stimulate neurodevelopmental research in humans and animals that will increase our understanding of the neurobiology underlying developmentally sensitive periods for risk, resilience, and intervention. This initiative will address sensitive periods in the development of normal function or psychopathology, sensitive periods for intervention to prevent, pre-empt, and/or treat mental illness, and the mechanisms underlying the interaction between genetics, experience, and development.

Services and Intervention Research Program (+\$1.711 million; total \$182.628 million): Several large longitudinal epidemiologic surveillance programs (such as those supported by CDC and SAMHSA) conduct annual, ongoing surveys in the U.S. general population. NIMH will support an initiative to leverage the power of these existing surveys on behavioral health in order to further assess psychopathology, functioning and service use. Longitudinal nature of these data would give NIMH the ability to track, over time, the prevalence, incidence, and severity of mental disorders, and would enable analysis of trends in service use and outcomes. The start-up phase of this initiative will require a small investment in the first year (\$.300 million), but during subsequent phases, the investment will increase to several million per year over six years, totaling approximately \$15.000 million.

**NATIONAL INSTITUTES OF HEALTH**  
**National Institute of Mental Health**  
**Summary of Changes**

FY 2009 estimate		\$1,450,491,000	
FY 2010 estimated budget authority		1,474,676,000	
Net change		24,185,000	
CHANGES	2009 Current		
	Estimate Base	Change from Base	
	Budget		Budget
	FTEs	Authority	FTEs
Authority			Authority
A. Built-in:			
1. Intramural research:			
a. Annualization of January 2009 pay increase		\$64,713,000	\$773,000
b. January FY 2010 pay increase		64,713,000	971,000
c. Payment for centrally furnished services		29,619,000	592,000
d. Increased cost of laboratory supplies, materials, and other expenses		77,978,000	1,285,000
Subtotal			3,621,000
2. Research management and support:			
a. Annualization of January 2009 pay increase		\$34,300,000	\$410,000
b. January FY 2010 pay increase		34,300,000	515,000
c. Payment for centrally furnished services		10,943,000	219,000
d. Increased cost of laboratory supplies, materials, and other expenses		24,319,000	399,000
Subtotal			1,543,000
Subtotal, Built-in			5,164,000

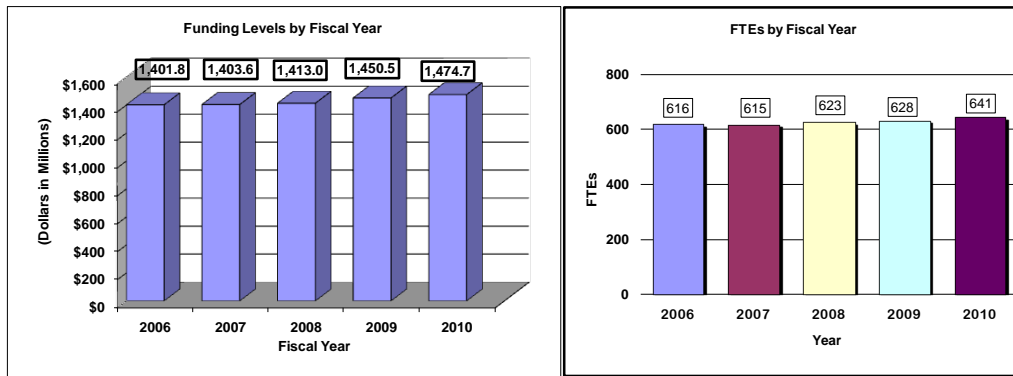


**NATIONAL INSTITUTES OF HEALTH**  
**National Institute of Mental Health**  
**Summary of Changes--continued**

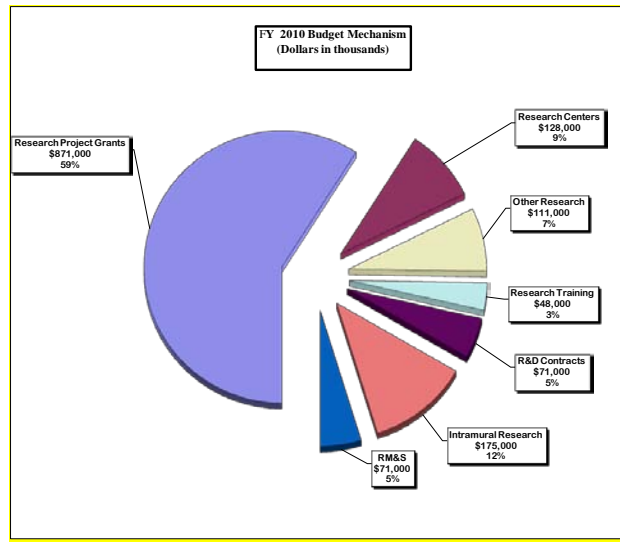
CHANGES	2009 Current Estimate Base		Change from Base	
	No.	Amount	No.	Amount
B. Program:				
1. Research project grants:				
a. Noncompeting	1,604	\$638,502,000	(99)	(\$428,000)
b. Competing	494	189,521,000	27	14,455,000
c. SBIR/STTR	85	27,946,000	(1)	539,000
Total	2,183	855,969,000	(73)	14,566,000
2. Research centers	74	126,438,000	0	1,896,000
3. Other research	569	108,573,000	(3)	2,305,000
4. Research training	1,142	47,578,000	0	476,000
5. Research and development contracts	206	70,061,000	0	1,140,000
Subtotal, extramural				20,383,000
6. Intramural research	385	172,310,000	0	(1,036,000)
7. Research management and support	243	69,562,000	13	(326,000)
Subtotal, program		1,450,491,000		19,021,000
Total changes	628		13	24,185,000

## Fiscal Year 2010 Budget Graphs

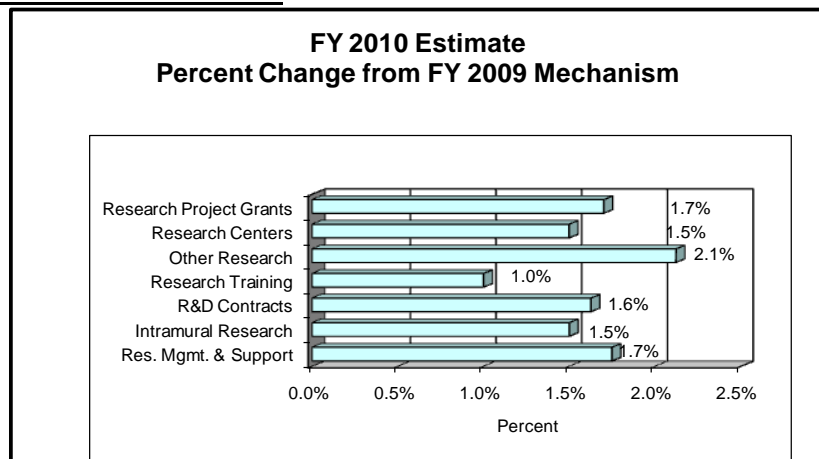
### History of Budget Authority and FTEs:



### Distribution by Mechanism:



### Change by Selected Mechanisms:



## Justification

### National Institute of Mental Health

Authorizing Legislation: Section 301 and title IV of the Public Health Service Act, as amended.

Budget Authority:

	FY 2008	FY 2009	FY 2009	FY 2010	FY 2010 +/-
	<u>Appropriation</u>	<u>Omnibus</u>	<u>Recovery Act</u>	President's <u>Budget</u>	2009 <u>Omnibus</u>
BA	\$1,412,951,000	\$1,450,491,000	\$366,789,000	\$1,474,676,000	+\$24,185,000
<u>FTE</u>	623	628	0	641	13

This document provides justification for the Fiscal Year (FY) 2010 activities of the National Institute of Mental Health (NIMH), including HIV/AIDS activities. Details of the FY 2010 HIV/AIDS activities are in the "Office of AIDS Research (OAR)" Section of the Overview. Details on the Common Fund are located in the Overview, Volume One. Program funds are allocated as follows: Competitive Grants/Cooperative Agreements; Contracts; Direct Federal/Intramural and Other.

In FY 2009, a total of \$366.789 million American Recovery and Reinvestment Act (ARRA) funds were transferred from the Office of the Director. These funds will be used to support scientific research opportunities that help support the goals of the ARRA. The ARRA allows NIH to execute these funds via any NIH funding mechanism. Funds are available until September 30, 2010. These funds are not included in the FY 2009 Omnibus amounts reflected in this document.

### DIRECTOR'S OVERVIEW

As the lead federal agency for research on mental and behavioral disorders, the mission of the National Institute of Mental Health (NIMH) is to transform the understanding and treatment of mental illnesses through basic and clinical research paving the way for prevention, recovery, and cure. The burden of mental illness is enormous. In a given year, an estimated 13 million American adults (approximately 1 in 17) have a seriously debilitating mental illness.<sup>1, 2</sup> Mental disorders are the leading cause of disability in the United States and Canada, accounting for 24 percent of all years of life lost to disability and premature mortality (Disability Adjusted Life Years or DALYs).<sup>3</sup> Moreover, suicide is

<sup>1</sup> Kessler RC, Chiu WT, Demler O, Merikangas KR, Walters EE. Prevalence, severity, and comorbidity of twelve-month DSM-IV disorders in the National Comorbidity Survey Replication (NCS-R). Archives of General Psychiatry, 2005 Jun;62(6):617-27. PMID: 15939839

<sup>2</sup> U.S. Census Bureau Population Estimates by Demographic Characteristics. Table 2: Annual Estimates of the Population by Selected Age Groups and Sex for the United States: April 1, 2000 to July 1, 2004 (NC-EST2004-02) Source: Population Division, U.S. Census Bureau Release Date: June 9, 2005.

<sup>3</sup> The World Health Organization. The global burden of disease: 2004 update, Table A2: Burden of disease in DALYs by cause, sex and income group in WHO regions, estimates for 2004. Geneva, Switzerland: WHO, 2008.

the 11<sup>th</sup> leading cause of death in the United States, accounting for the deaths of approximately 30,000 Americans each year.<sup>4</sup> Schizophrenia, bipolar disorder, depression, post-traumatic stress disorder, eating disorders, autism, and other disorders are serious, life-threatening illnesses for which we need reliable diagnostic tests, new treatments, and effective strategies for prevention.

To inspire and support research that will continue to make a difference for those living with mental illness, and ultimately, promote recovery, NIMH recently developed a Strategic Plan to guide future research efforts. This plan outlines four overarching strategic objectives that can be viewed as a cumulative progression of the Institute's priorities for the next five years. In FY 2009 and 2010, NIMH will target research initiatives to address the four objectives of the Strategic Plan. The objectives and a selection of initiatives are described below:

***Objective 1: Promote discovery in the brain and behavioral sciences to fuel research on the causes of mental disorders***

Mental disorders are complex brain disorders—disorders of specific brain circuits. Today, there are powerful discovery tools, such as genome mapping and neuroimaging, which will help us to understand the underlying causes of these disorders. Genomic analyses will be critical for determining who is at risk for a disorder; pointing to key cellular and neural pathways involved in pathophysiology; and identifying novel targets for treatment. Therefore, beginning in FY 2008 and continuing through FY 2013, NIMH will support several initiatives to enrich the NIMH Center for Collaborative Genetic Studies—a repository of DNA, cell cultures, and clinical data that serves as a national resource for researchers studying the genetics of complex mental disorders. These initiatives will support the collection of new biomaterials and clinical data from large cohorts to enrich pre-existing resources and support the analysis of existing data sets to further our understanding of the molecular etiology of mental disorders. Resources in the repository have allowed NIMH-funded investigators to participate in several promising projects, including a public-private partnership called the Genetic Association Information Network (GAIN). GAIN studies are investigating the genetic roots of several common diseases, including four mental disorders—schizophrenia, major depression, bipolar disorder, and ADHD. In 2008, genomic data for these disorders were deposited into a publicly accessible database to encourage further analyses by the scientific community.

***Objective 2: Chart mental illness trajectories to determine when, where and how to intervene***

Mental disorders are chronic changing conditions. The symptoms often begin in childhood and adolescence and ebb and flow over the course of an individual's life. Charting trajectories of mental disorders across stages of risk, to early symptoms, to full symptoms or syndromes, and to remission, relapse, and recovery will allow us to pinpoint the best times and techniques to preempt the onset of symptoms or halt and

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<sup>4</sup> Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS). ([www.cdc.gov/ncipc/wisqars](http://www.cdc.gov/ncipc/wisqars))

reverse the progression and recurrence of illness. With this objective in mind, from FY 2009 to FY 2013, NIMH will continue to support a project to predict, characterize, and preemptively treat schizophrenia. This prospectively designed study will identify genomic and biological markers to define risk and to develop interventions to prevent psychotic symptoms and functional disability. Through previous support by NIMH, these investigators have already determined that psychotic illness can be predicted in up to 80 percent of high-risk youth.<sup>5</sup> Predicting who is likely to develop the illness could provide a critical window of opportunity for treating these youth to preempt serious functional disability.

***Objective 3: Develop new and better interventions that incorporate the diverse needs and circumstances of people with mental illnesses***

In general, traditional intervention research has focused on comparing how groups of individuals receiving an experimental treatment fare against a comparison group that does not receive the intervention. However, individual responses to treatment may vary from what is observed in the group. Therefore, we need a new generation of innovative clinical studies focused on personalized care, recovery, and diverse populations. To address this objective, in FY 2010, NIMH will support projects to develop personalized treatments for depression. Studies will create models and test new approaches that account for individual patient characteristics, such as their specific symptoms, co-occurring disorders, age, personal history, social background, and genetic variation.

***Objective 4: Strengthen the public health impact of NIMH-supported research***

Through research, evaluation, and collaboration, NIMH will work to promote the dissemination and implementation of research-tested interventions and their widespread use by those most in need. This objective will require NIMH to encourage partnerships and leverage existing resources to stimulate efficient and cost-effective research studies. In 2010, NIMH will launch an initiative to encourage information technology bridges among health care networks to identify thousands of subjects for basic and applied studies of mental illness in practice settings. Very large, well-characterized, and representative clinical samples are necessary to rapidly and cost-effectively pursue many mental health research questions, including tests of effective treatments within large patient populations; implementation of systemic interventions within large health care systems; and methods for delivering personalized care. This initiative will support studies of interventions to improve treatment across large mental health systems.

The NIMH Strategic Plan aims to close the gap between basic biological knowledge and effective mental health care in the United States. NIMH will use the plan as a guide to ensure that basic and clinical research goals are highly applicable to the development and implementation of new and effective mental disorder treatments. NIMH will continue to build and strengthen partnerships with stakeholders, working together to help advance the science of mental health and to find ways to ensure that interventions and

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<sup>5</sup> Cannon TD, Cadenhead K, Cornblatt B, Woods SW, Addington J, Walker E, Seidman LJ, Perkins D, Tsuang M, McGlashan T, Heinssen R. Prediction of Psychosis in High Risk Youth: A Multi-Site Longitudinal Study in North America. *Archives of General Psychiatry*. January 7, 2008.

information generated by research can be used by patients, families, health care providers, and the wider community involved in mental health care.

Overall Budget Policy: NIMH will continue to support new investigators and to maintain an adequate number of competing RPGs. NIMH is providing a 2 percent inflationary increase for non-competing and competing grants. In addition, the NIMH has targeted a portion of the funds available for competing research project grants to support high priority projects outside of the payline, including awards to new investigators, and early stage investigators. The Institute also seeks to maintain a balance between solicitations issued to the extramural community in areas that need stimulation and funding made available to support investigator-initiated projects. Intramural Research and Research Management and Support receive conservative increases to help offset the cost of pay and other increases.

## **FY 2010 JUSTIFICATION BY PROGRAM ACTIVITY DETAIL**

### **Program Descriptions and Accomplishments**

#### **Health, Behavior, and AIDS Research**

The program supports research and research training to: (1) reduce the burden of mental illness due to non-adherence to treatment, unhealthy behaviors, stigma and discrimination, health disparities, and co-occurring medical conditions; (2) develop and disseminate behavioral interventions that prevent HIV/AIDS transmission; and (3) clarify the biological, psychological, and functional effects of HIV/AIDS infection and alleviate the associated consequences.

In FY 2008, NIMH, NICHD, and NINR issued a Program Announcement (PA) inviting research to enhance the science of technology transfer, dissemination, implementation, and operational research for evidence-based HIV-prevention interventions. To articulate the research scope for this announcement, staff from NIH and the Centers for Disease Control and Prevention (CDC) identified research gaps and opportunities in the field. NIMH and CDC staff frequently collaborate to ensure strong linkages between the NIMH/NIH research on evidence-based prevention interventions and the prevention services and training that the CDC provides in community and clinical settings.

Budget Policy: The FY 2010 budget estimate for this program is \$225.551 million, an increase of \$2.114 million or +0.9 percent over the FY 2009 estimate. Broadening research on mental disorders to better address issues of daily functioning will be a high priority. FY 2010 program plans will emphasize research projects in which biobehavioral science methods and approaches are applied to better measure daily functional outcomes. NIMH plans to develop and test novel interventions that target functional capacity and performance deficits. NIMH will continue to encourage research on mental disorders in people with other physical disorders, such as cancer. For example, in FY 2010, NIMH will support studies on preventing depression in patients undergoing cancer treatment. NIMH will also encourage research on behavior change in

people with mental disorders to reduce risk factors for cancer such as smoking, poor nutrition, and sedentary lifestyles. In addition, projects that tailor preventive interventions for those with acute human immunodeficiency virus (HIV) infection will be given a high priority. NIMH will support studies on domestic efforts to identify and intervene with those with acute HIV infection, building upon research that has been conducted primarily in the international arena.

### **Adult Translational Research and Treatment Development**

The program plans, supports, and administers programs of research, research training, and resource development aimed at: (1) understanding the biological, psychological, and functional changes that occur with mental illness and (2) hastening the translation of science advances into innovations in clinical care. The program supports a broad research portfolio, which includes studies of the risk factors for major psychiatric disorders; clinical neuroscience studies to elucidate causes and functional effects of these disorders; and research on psychosocial, pharmacological, and somatic treatment development.

In FY 2008, NIMH continued to support funding opportunities for research in geriatric mental health. The PA “Clinical Research in Mental Illnesses in Older Adults” seeks to expand translational research aimed at understanding the etiology and pathophysiology of late-life mental disorders; identifying risk and protective factors and their relationship to the development of various disorders; and accelerating the translation of behavioral science and neuroscience advances into clinical practice. The PA “Pathophysiology and Treatment Response in Late-Life Mood and Anxiety Disorders” encourages studies on the neurobiology of these disorders and the development of potential new treatments (psychosocial, psychopharmacologic, and somatic) or predictors of treatment response.

Budget Policy: The FY 2010 budget estimate for this program is \$266.857 million, an increase of \$2.501 million or +0.9 percent over the FY 2009 estimate. High priority will be given to studies that close the gap between advances in basic cognitive neuroscience and practical clinical trial applications for patients with schizophrenia. NIMH will continue to support an initiative to identify promising experimental cognitive tasks in order to further develop and refine cognitive measurements; to develop guidelines for adapting laboratory tasks for use in clinical trials; and to consider how these adapted tasks can be used in behavioral and functional imaging studies to improve treatment of impaired cognition in schizophrenia. High priority will also be given to studies that further the understanding of the biology, genetics, and treatment of eating disorders. NIMH will support a project to examine the role of ovarian hormones in the genetic basis of bulimia and another project to study the psychological and physiological factors associated with food intake in healthy women and women with bulimia and purging disorders.

## Developmental Translational Research

The program supports research and research training with the ultimate goal of preventing and curing mental disorders that originate in childhood and adolescence. The program stimulates and promotes an integrated program of research across basic behavioral/psychological processes, environmental processes, brain development, genetics, developmental psychopathology, and therapeutic interventions. The mission of the program is to translate knowledge from basic discoveries on the developmental origins of mental disorders to effect their prevention and cure. This goal will be accomplished through the integration of research on neurobehavioral mechanisms of psychopathology; understanding of the trajectories of risk/illness; and the design and testing of innovative and personalized treatments.

In FY 2008, NIMH issued a request for applications (RFA) titled “Novel Interventions for Neurodevelopmental Disorders.” This RFA encourages research to develop interventions that will improve functioning in attention, learning, social interaction, and emotion regulation—domains that are commonly affected by neurodevelopmental disorders. The RFA encourages studies on a variety of disorders, including (but not limited to) autism spectrum disorders, childhood-onset schizophrenia, pediatric bipolar disorder, attention-deficit hyperactivity disorder, and Tourette syndrome. The ultimate goal of this funding opportunity is to develop a broad scope of treatment approaches (e.g. psychopharmacologic, cognitive, psychosocial) with the potential for widespread, cost-effective application.

**Budget Policy:** The FY 2010 budget estimate for this program is \$136.774 million, an increase of \$5.979 million or +4.6 percent over the FY 2009 estimate. High priority will be given to studies that identify early signs of risk and develop novel and targeted preventive and treatment interventions, such as projects involving innovative approaches for treating children who have attention deficit hyperactivity disorder (ADHD). In FY 2010, NIMH will also support studies on psychosocial and behavioral treatments for autism spectrum disorders, as well as innovative services research, including the development of instruments to evaluate the impact of interventions on core features of autism spectrum disorders and co-occurring symptoms.

### **Program Portrait: Enhancing Collaboration through Autism Centers of Excellence**

FY 2009 Level: 8.957 million

FY 2010 Level: 10.363 million

Change: +1.406 million

Over the past several years, the NIMH autism research portfolio has expanded significantly, ranging from basic and clinical neuroscience to treatment and services. Much of this expansion has been through collaborations with multiple NIH institutes through research center programs.

NIH created the Autism Centers of Excellence (ACE) program in 2007 to maximize coordination and cohesion of NIH-sponsored autism research efforts. The ACE program represents a consolidation of two previous NIH programs, the Studies to Advance Autism Research and Treatment (STAART; established in 2002) and the Collaborative Programs of Excellence in Autism (CPEA; established in 1997), into a single research effort. The ACE program focuses on identifying the causes of autism spectrum disorder (ASD) and developing new and improved treatments.



The NIH Institutes providing funding and expertise for the effort are the National Institute of Mental Health, the National Institute of Child Health and Human Development, the National Institute of Deafness and other Communication Disorders, the National Institute of Environmental Health Sciences, and the National Institute of Neurological Disorders and Stroke.

The ACE program encompasses research centers and networks focusing on a broad range of autism-related research, including neuroimaging, biomarkers and susceptibility genes, pharmacotherapy, early intervention, and risk and protective factors. The research centers foster collaborations between teams of specialists who share the same facility so that they can address a particular research problem in depth. The ACE networks consist of researchers at many facilities in locations throughout the country, all of whom work together on a single research question. Because networks encompass multiple sites, they can recruit large numbers of participants with an autism spectrum disorder.

In 2007, five ACE centers and two ACE networks received funding to study ASD. In 2008, one additional ACE center and three additional ACE networks received funding to study ASD. All ACE award recipients will contribute their data to the National Database for Autism Research (NDAR). NDAR is a Web-based collaborative bioinformatics system created by NIH that autism researchers around the world can use to share and access autism research data.

## **Neuroscience and Basic Behavioral Science**

The program provides support for research in the areas of basic neuroscience, genetics, basic behavioral science, research training, resource development, technology development, drug discovery, and research dissemination. In cooperation with other components of the Institute and the research community, the program is responsible for ensuring that relevant basic science knowledge is generated and then utilized to improve diagnosis, treatment, and prevention of mental and behavioral disorders.

Many mental disorders are first diagnosed in adolescents or young adults, indicating that these mental disorders may be disorders of brain development. Comparative studies across time, species, and discipline will be critical for identifying when and how developmental trajectories are changed in mental disorders. Therefore, in FY 2008, NIMH issued an RFA to encourage comparative research on the development of the cerebral cortex and other brain regions in humans or other mammalian model systems. Studies supported in response to this RFA will integrate multiple levels of analysis, linking cortical development with complex behaviors related to mood, cognition, and social function.

Budget Policy: The FY 2010 budget estimate for this program is \$417.921 million, an increase of \$8.078 million or +2.0 percent over the FY 2009 estimate. High priority will be given to research that defines the genomic variations associated with mental disorders and that determines the biological consequences of these variations. To determine the biological consequences of candidate risk genes, NIMH will support studies to tease apart the genetic components of mental disorders to understand the

complex relationship between genes and illness-specific characteristics; interactions between multiple vulnerability genes; gene-environment interactions; and the role of genetic changes that result from environmental influences on gene expression. NIMH will also support exploratory studies to generate and characterize induced pluripotent stem (iPS) cells from healthy populations and patient populations with mental disorders, particularly those in which a genetic linkage has been identified.

#### **Program Portrait: NIMH Genomics Research Program**

FY 2009 Level: 91.326 million

FY 2010 Level: 93.152 million

Change: +1.826 million

With the completion of the Human Genome Project, attention has shifted toward the translational promise of the human genomic sequence, and efforts are underway to understand how genetic variation can disrupt function and lead to disease. NIMH continues to support cutting-edge genomics research that will determine the link between genes and the biological underpinnings of mental and behavioral disorders. NIMH-funded research has already demonstrated that genes exert a significant influence on the risk for many mental disorders, such as autism, schizophrenia, and bipolar disorder.

For example, a recent NIMH-funded study showed that schizophrenia is associated with a burden of rare deletions and duplications of genetic material throughout the genome. Although most healthy people bear small changes in their genetic material, these deletions and duplications are 15 percent more frequent in people with schizophrenia. Studies of autism suggest that tiny, individually rare mutations are present in at least 10 percent of sporadic cases of autism, which is the most common form of the disorder. Although they might share similar symptoms, different cases of autism could be traceable to any of 100 or more genes, alone or in combination.

While there is optimism that genomic studies will identify genetic variants that are critical to the development of mental disorders, this is tempered by realizing the complexity of these disorders and the challenges this complexity poses for research. The field will need new genomic technologies (e.g. high throughput sequencing); powerful statistical analyses; methods to integrate non-genetic factors into a comprehensive model of disease; larger sample sizes; and well characterized clinical data. To address these challenges, NIMH has launched a number of initiatives. From FY 2008 to FY 2013, NIMH will support several initiatives to enrich the NIMH Center for Collaborative Genetic Studies [(CCGC) (<http://nimhgenetics.org>)]--a repository of DNA, cell cultures, and clinical data that serves as a national resource for researchers studying the genetics of complex mental disorders. These initiatives will support the collection of new biomaterials and clinical data from large cohorts and will support analyses of existing data within the repository. The CCGC will also be enhanced through the creation of a genomic cyberinfrastructure that will integrate and manage data to accelerate genetic analyses. In FY2008, NIMH launched a request for applications to encourage studies that will tease apart the complex genetic components of mental disorders, using resources within the CCGC. Projects will study the relationship between genes and illness-specific characteristics; interactions between multiple vulnerability genes; and the role of environmental and experiential influences on gene expression. Through these collective efforts, this research may give us the tools to predict vulnerability, validate diagnosis, and identify targets for new, effective, and personalized treatments.

#### **Services and Intervention Research**

The program supports research to evaluate the effectiveness of pharmacologic, psychosocial, rehabilitative, and combination interventions on mental and behavior disorders. The program evaluates interventions for children, adolescents, and adults,

focusing on acute and long-term therapeutic effects. Another important area supported by the program is mental health services research, including services organization and delivery; interventions to improve the quality and outcomes of care; and research on the dissemination and implementation of evidence-based interventions into service settings.

While effective treatments of depression are available, there is considerable individual variation in treatment response with respect to both therapeutic benefit and adverse effects. Many patients with depression do not benefit from the first treatment they receive, thus requiring multiple, sequentially delivered treatments in order to achieve remission. In FY2008, NIMH issued an RFA titled “Innovative Approaches to Personalizing the Treatment of Depression.” The purpose of this RFA is to advance research on predictors and moderators of treatment effects in order to develop personalized treatments for depression. Studies will develop models and test new approaches that account for patient characteristics, such as their specific symptoms, co-occurring disorders, age, personal history, social background, and genetic variation.

**Budget Policy:** The FY 2010 budget estimate for this program is \$182.628 million, an increase of \$1.711 million or +0.9 percent over the FY 2009 estimate. High priority will be given to studies that develop innovative interventions and designs for intervention studies. To address this priority, NIMH will issue a Request for Applications for projects that will test methods for linking information from multiple health care networks to provide platforms for recruiting very large, well-characterized, and representative clinical samples. In addition, NIMH will provide core infrastructure support for conducting intervention and/or services research. In FY 2010, NIMH will continue to support centers that address the spectrum of intervention and services research—from effectiveness of treatment approaches to the improvement of dissemination, implementation, accessibility, and quality of evidence-based treatments.

**Program Portrait: State Laboratories to Inform Evidence-Based Policy for Mental Health Services Research**

FY 2009 Level: 6.084 million  
FY 2010 Level: 7.084 million  
Change: +1.000 million

Partnerships between researchers, service providers, and policy-makers are an important means through which NIMH-funded research findings impact mental health care. While research continues to shape individual evidence-based practices, it is less clear how changes in health policy at the community, state, and federal level influence practice more broadly. Little is known about how health policy changes, such as implementing parity or programs for returning combat veterans, may affect cost, quality, and outcomes of mental health care delivered in the United States. Without systematic analyses, policy decisions are often made in isolation. To address this issue, NIMH has undertaken a series of efforts to promote studies that will help develop an evidence-base for policies regarding mental health treatments and services.

From FY 2006-2008, NIMH, the Center for Mental Health Services (of the Substance Abuse and Mental Health Services Administration), and the National Association of State Mental Health Program

Directors (NASMHPD), organized a series of regional meetings that brought together mental health services researchers, state commissioners, NIMH Outreach Partners, consumers, and providers. Participants discussed that many state systems store large amounts of underused data, such as Medicaid data sets, and data collected through the state mental health agency and other systems such as child welfare, corrections, aging, housing, and education programs. Analyses of these data within and across states, together with analyses of complementary data collected through Federal agencies, could provide valuable insights to inform future policy decisions.

In FY 2007, NIMH awarded a contract to the NASMHPD Research Institute to create ongoing state policy "laboratories." These laboratories will use states' existing data to evaluate service systems and inform policymakers. The state laboratories will assess the quality of available state datasets, determine whether the data can be pooled effectively, and will create a reference database of existing candidate policies for research. These laboratories will serve as a platform for future studies to inform evidence-based policies for mental health treatment and services.

In FY 2008, NIMH issued a request for applications (RFA) to encourage state agencies, in partnership with research collaborators, to analyze existing state and national administrative datasets to track the impact of state-level policy initiatives. Applicants were encouraged to study the effect of changes in mental health policies, financial policies, delivery systems, or other policies on the cost, quality of care, and outcomes for persons with mental disorders. Projects will be funded at the end of FY 2009.

## **Intramural Research Programs (IRP)**

The IRP is the internal research arm of NIMH. Its mission is to plan and conduct basic, clinical, and translational research to advance understanding of the diagnosis, causes, treatment, and prevention of mental disorders. IRP scientists study brain function and behavior; conduct state-of-the-art research that complements extramural research activities; and provide an environment conducive to the training of clinical and basic scientists.

In FY 2008, IRP researchers identified potential molecular targets for developing treatments for both the depressive and manic episodes of bipolar disorder.

Budget Policy The FY 2010 budget estimate for these programs is \$174.895 million, an increase of \$2.585 million or +1.5 percent over the FY 2009 estimate. The IRP will continue to implement the recommendations of the NIMH 2008 Blue Ribbon Panel on Intramural Research. The Panel recommended a number of changes to the structure of the IRP, its funding practices, and its hiring and retention strategies. Scientists in the IRP will also continue with research efforts that address several of the objectives of the NIMH Strategic Plan, which range from studies of normal brain function (conducted at the behavioral, systems, cellular, and molecular levels) to clinical investigations into the diagnosis, treatment, and prevention of mental illness.

## **Research Management and Support (RMS)**

The RMS program provides administrative, budgetary, logistical, and scientific support in the review, award, and monitoring of research grants, training awards, and research and development contracts. RMS functions include strategic planning, coordination, and

evaluation of the Institute's programs, regulatory compliance, international coordination, and liaison with other Federal agencies, Congress, and the public. In FY 2008, the Institute oversaw 2,909 research grants, 438 training grants and 202 research and development contracts.

In FY 2008, the Institute began development of a comprehensive Risk Management Program. All NIMH management analysts were trained in "Internal Controls" and attended training on Federal Managers' Financial Integrity Act (FMFIA) Assurance requirements. An NIMH team was established, which developed both review processes and reporting tools, and proactively initiated several in-house reviews of potentially vulnerable administrative areas. As a result of these reviews, current policies and procedures were amended to minimize potential future risks.

Budget Policy: The FY 2010 budget estimate for RMS is \$70.779 million, an increase of \$1.217 million or +1.7 percent over the FY 2009 estimate. RMS costs shall continue to be closely monitored since staff salaries and expenses account for almost half of all RMS costs. Efforts are currently underway to analyze workforce efficiency and productivity to insure that new staff and support contractors are aligned to areas of increased program needs. Controls are in place on travel and equipment purchases and on conference support.

### **Common Fund**

NIMH and NHGRI are the lead Institutes for the Molecular Libraries Roadmap Initiative supported through the NIH Common Fund. This initiative offers public-sector researchers access to high throughput screening (HTS) of libraries of small organic compounds that can be used as chemical probes to study the functions of genes, cells, and biological pathways. This powerful HTS technology provides novel approaches to explore the functions of major cellular components in health and disease.

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**Budget Authority by Object**

	FY 2009 Estimate	FY 2010 PB	Increase or Decrease
Total compensable workyears:			
Full-time employment	628	641	13
Full-time equivalent of overtime and holiday hours	0	0	0
Average ES salary	\$162,934	\$169,451	\$6,517
Average GM/GS grade	11.9	12.0	0.1
Average GM/GS salary	\$94,141	\$97,907	\$3,766
Average salary, grade established by act of July 1, 1944 (42 U.S.C. 207)	\$110,997	\$115,436	\$4,439
Average salary of ungraded positions	132,787	138,098	5,311
OBJECT CLASSES	FY 2009 Estimate	FY 2010 Estimate	Increase or Decrease
Personnel Compensation:			
11.1 Full-time permanent	\$41,868,000	\$44,221,000	\$2,353,000
11.3 Other than full-time permanent	23,898,000	24,731,000	833,000
11.5 Other personnel compensation	1,515,000	1,592,000	77,000
11.7 Military personnel	763,000	796,000	33,000
11.8 Special personnel services payments	12,087,000	12,413,000	326,000
<b>Total, Personnel Compensation</b>	<b>80,131,000</b>	<b>83,753,000</b>	<b>3,622,000</b>
12.0 Personnel benefits	18,384,000	19,245,000	861,000
12.2 Military personnel benefits	498,000	519,000	21,000
13.0 Benefits for former personnel	0	0	0
<b>Subtotal, Pay Costs</b>	<b>99,013,000</b>	<b>103,517,000</b>	<b>4,504,000</b>
21.0 Travel and transportation of persons	3,138,000	3,076,000	(62,000)
22.0 Transportation of things	230,000	224,000	(6,000)
23.1 Rental payments to GSA	0	0	0
23.2 Rental payments to others	0	0	0
23.3 Communications, utilities and miscellaneous charges	1,385,000	1,355,000	(30,000)
24.0 Printing and reproduction	532,000	492,000	(40,000)
25.1 Consulting services	3,545,000	3,346,000	(199,000)
25.2 Other services	19,031,000	18,822,000	(209,000)
25.3 Purchase of goods and services from government accounts	136,687,000	136,883,000	196,000
25.4 Operation and maintenance of facilities	1,338,000	1,327,000	(11,000)
25.5 Research and development contracts	26,311,000	27,252,000	941,000
25.6 Medical care	434,000	434,000	0
25.7 Operation and maintenance of equipment	1,860,000	1,828,000	(32,000)
25.8 Subsistence and support of persons	0	0	0
<b>25.0 Subtotal, Other Contractual Services</b>	<b>189,206,000</b>	<b>189,892,000</b>	<b>686,000</b>
26.0 Supplies and materials	7,414,000	7,393,000	(21,000)
31.0 Equipment	11,015,000	10,926,000	(89,000)
32.0 Land and structures	0	0	0
33.0 Investments and loans	0	0	0
41.0 Grants, subsidies and contributions	1,138,558,000	1,157,801,000	19,243,000
42.0 Insurance claims and indemnities	0	0	0
43.0 Interest and dividends	0	0	0
44.0 Refunds	0	0	0
<b>Subtotal, Non-Pay Costs</b>	<b>1,351,478,000</b>	<b>1,371,159,000</b>	<b>19,681,000</b>
<b>Total Budget Authority by Object</b>	<b>1,450,491,000</b>	<b>1,474,676,000</b>	<b>24,185,000</b>

Includes FTEs which are reimbursed from the NIH Roadmap for Medical Research

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**Salaries and Expenses**

OBJECT CLASSES	FY 2009 Estimate	FY 2010 PB	Increase or Decrease
<b>Personnel Compensation:</b>			
Full-time permanent (11.1)	\$41,868,000	\$44,221,000	\$2,353,000
Other than full-time permanent (11.3)	23,898,000	24,731,000	833,000
Other personnel compensation (11.5)	1,515,000	1,592,000	77,000
Military personnel (11.7)	763,000	796,000	33,000
Special personnel services payments (11.8)	12,087,000	12,413,000	326,000
<b>Total Personnel Compensation (11.9)</b>	<b>80,131,000</b>	<b>83,753,000</b>	<b>3,622,000</b>
Civilian personnel benefits (12.1)	18,384,000	19,245,000	861,000
Military personnel benefits (12.2)	498,000	519,000	21,000
Benefits to former personnel (13.0)	0	0	0
<b>Subtotal, Pay Costs</b>	<b>99,013,000</b>	<b>103,517,000</b>	<b>4,504,000</b>
Travel (21.0)	3,138,000	3,076,000	(62,000)
Transportation of things (22.0)	230,000	224,000	(6,000)
Rental payments to others (23.2)	0	0	0
Communications, utilities and miscellaneous charges (23.3)	1,385,000	1,355,000	(30,000)
Printing and reproduction (24.0)	532,000	492,000	(40,000)
<b>Other Contractual Services:</b>			
Advisory and assistance services (25.1)	3,545,000	3,346,000	(199,000)
Other services (25.2)	19,031,000	18,822,000	(209,000)
Purchases from government accounts (25.3)	96,531,000	96,641,000	110,000
Operation and maintenance of facilities (25.4)	1,338,000	1,327,000	(11,000)
Operation and maintenance of equipment (25.7)	1,860,000	1,828,000	(32,000)
Subsistence and support of persons (25.8)	0	0	0
<b>Subtotal Other Contractual Services</b>	<b>122,305,000</b>	<b>121,964,000</b>	<b>(341,000)</b>
Supplies and materials (26.0)	7,369,000	7,348,000	(21,000)
<b>Subtotal, Non-Pay Costs</b>	<b>134,959,000</b>	<b>134,459,000</b>	<b>(500,000)</b>
<b>Total, Administrative Costs</b>	<b>233,972,000</b>	<b>237,976,000</b>	<b>4,004,000</b>

**NATIONAL INSTITUTES OF HEALTH  
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**Authorizing Legislation**

	PHS Act/ Other Citation	U.S. Code Citation	2009 Amount Authorized	FY 2009 Estimate	2010 Amount Authorized	FY 2010 PB
Research and Investigation	Section 301	42§241	Indefinite	\$1,450,491,000	Indefinite	\$1,474,676,000
National Institute of Mental Health	Section 402(a)	42§281	Indefinite		Indefinite	
Total, Budget Authority				1,450,491,000		1,474,676,000



**NATIONAL INSTITUTES OF HEALTH  
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**Appropriations History**

Fiscal Year	Budget Estimate to Congress	House Allowance	Senate Allowance	Appropriation <u>1/</u>
2001	896,059,000 <u>2/</u>	1,114,638,000	1,117,928,000	1,107,028,000
Rescission				(492,000)
2002	1,238,305,000	1,228,780,000	1,279,383,000	1,248,626,000
Rescission				(533,000)
2003	1,359,008,000	1,359,008,000	1,350,788,000	1,349,788,000
Rescission				(8,774,000)
2004	1,382,114,000	1,382,114,000	1,391,114,000	1,390,714,000
Rescission				(8,940,000)
2005	1,420,609,000	1,420,609,000	1,436,800,000	1,423,609,000
Rescission				(11,676,000)
2006	1,417,692,000	1,417,692,000	1,460,393,000	1,417,692,000
Rescission				(14,177,000)
2007	1,394,806,000	1,394,806,000	1,403,551,000	1,404,494,000
2008	1,405,421,000	1,425,531,000	1,436,001,000	1,429,466,000
Rescission				(24,973,000)
Supplement				7,475,000
2009	1,406,841,000	1,455,145,000	1,445,987,000	1,450,491,000
2010	1,474,676,000			

1/ Reflects enacted supplementals, rescissions, and reappropriations.

2/ Excludes funds for HIV/AIDS research activities consolidated in the NIH Office of AIDS Research.

**NATIONAL INSTITUTES OF HEALTH  
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**Details of Full-Time Equivalent Employment (FTEs)**

OFFICE/DIVISION	FY 2008 Actual	FY 2009 Estimate	FY 2010 PB
Office of the Director	98	99	105
Division of Neuroscience and Basic Behavioral Science	26	28	31
Division of AIDS and Health and Behavior Research	19	19	19
Division of Services and Intervention Research	22	22	24
Division of Adult Translational Research and Treatment Development	14	14	14
Division of Developmental Translational Research	13	13	13
Division of Extramural Activities	46	48	50
Division of Intramural Research Programs	385	385	385
<b>Total</b>	<b>623</b>	<b>628</b>	<b>641</b>
Includes FTEs which are reimbursed from the NIH Roadmap for Medical Research			
FTEs supported by funds from Cooperative Research and Development Agreements			
	(0)	(0)	(0)
FISCAL YEAR	Average GM/GS Grade		
2006	11.8		
2007	11.9		
2008	11.9		
2009	11.9		
2010	12.0		

<b>NATIONAL INSTITUTES OF HEALTH</b>			
<b>National Institute of Mental Health</b>			
<b>Detail of Positions</b>			
GRADE	FY 2008 Actual	FY 2009 Estimate	FY 2010 PB
Total, ES Positions	2	2	2
Total, ES Salary	310,735	325,868	338,903
GM/GS-15	55	55	56
GM/GS-14	72	73	76
GM/GS-13	94	95	98
GS-12	81	84	85
GS-11	59	59	59
GS-10	2	2	2
GS-9	55	55	60
GS-8	19	19	19
GS-7	14	14	14
GS-6	4	4	4
GS-5	1	1	1
GS-4	0	0	0
GS-3	1	1	1
GS-2	0	0	0
GS-1	0	0	0
Subtotal	457	462	475
Grades established by Act of July 1, 1944 (42 U.S.C. 207):			
Assistant Surgeon General	0	0	0
Director Grade	5	5	5
Senior Grade	0	0	0
Full Grade	0	0	0
Senior Assistant Grade	0	0	0
Assistant Grade	0	0	0
Subtotal	5	5	5
Ungraded	198	205	205
Total permanent positions	453	465	478
Total positions, end of year	662	674	687
Total full-time equivalent (FTE) employment, end of year	623	628	641
Average ES salary	155,368	162,934	169,451
Average GM/GS grade	11.9	11.9	12.0
Average GM/GS salary	89,769	94,141	97,907
Includes FTEs which are reimbursed from the NIH Roadmap for Medical Research.			

**NATIONAL INSTITUTES OF HEALTH  
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**New Positions Requested**

	FY 2010		
	Grade	Number	Annual Salary
Health Science Administrator	GS-15	1	\$144,997
Health Science Administrator	GS-14	2	123,269
Database Systems Manager	GS-14	1	123,269
Program Officer	GS-13	3	104,314
Scientific Writer	GS-12	1	87,717
Program Analyst	GS-9	3	60,490
Grants Management Specialist	GS-9	2	60,490
<b>Total Requested</b>		<b>13</b>	