

# *National Institutes of Health*

## *Summary of the FY 2009 President's Budget*

February 4, 2008



## NIH Budget at a Glance

### National Institutes of Health (dollars in millions)

	FY 2007 Actual	FY 2008 Enacted	FY 2009 Estimate	Change from FY 2008 Enacted
<b>Labor/HHS Discretionary Budget Authority (B.A.)</b>	<b>\$28,899</b>	<b>\$29,230</b>	<b>\$29,230</b>	<b>\$0</b>
Interior B.A.	\$79	\$78	\$78	\$0
<b>Total Discretionary B.A.</b>	<b>\$28,978</b>	<b>\$29,307</b>	<b>\$29,307</b>	<b>\$0</b>
Type I Diabetes Initiative	\$150	\$150	\$150	\$0
Total B. A.	\$29,128	\$29,457	\$29,457	\$0
NIH Program Level	\$29,137	\$29,465	\$29,465	\$0
<i>AIDS Program</i>	\$2,906	\$2,913	\$2,913	\$0
<i>Number of Competing RPGs</i>	10,323	9,771	9,757	-14
<i>Total Number of RPGs</i>	38,845	38,239	38,257	18
<i>Success Rate</i>	21%	19%	18%	-1%
<i>FTEs</i>	16,997	17,138	17,254	+116

The FY 2009 Discretionary Budget Authority request for the NIH is \$29,230 million, equal to the FY 2008 appropriation. The total NIH budget authority with the Type I Diabetes Initiative for FY 2009 is \$29,380 million. It provides a total Program Level in FY 2009 of \$29,465 million, the same as the FY 2008 Enacted Level.

The FY 2009 Request maintains the AIDS research program at the FY 2008 level of \$2,913 million. In addition, NIH will provide \$300 million to the Global Fund for HIV/AIDS, Tuberculosis and Malaria.

NIH has modified its traditional budget display by mechanism so that activities of the National Cancer Institute's Cancer Prevention and Control Program and the National Library of Medicine are allocated among the various trans-NIH mechanisms of support.

### **Moving Towards Medicine in 2030**

Fifty years ago, a man died instantly from a heart attack. Twenty five years ago, his son experienced chest pains and received a bypass operation. This year, his grandson was diagnosed with high cholesterol and is on statins. What does the future hold for his great-grandson? Over the years, through discoveries from basic research, population studies, and clinical research, we have moved from—doing nothing about heart disease, to relying largely on invasive surgeries, such as coronary bypass, to prevention through the use of blood pressure and cholesterol-

lowering drugs. We have cut the deaths from heart disease by 50% over the last 30 years, but can we take the next step to predict or preempt the development of heart disease? Can we improve treatment so that it is most effective and personalized?

In the past 40 years, NIH funded research has successfully reduced the mortality and morbidity of once acute and lethal conditions by finding ways to improve treatment -- even in late stages. These advances have helped change the landscape of disease from acute to chronic diseases, which now form the largest component of health burden. Biomedical research is the key to transform medicine from the curative health care paradigm of the past where we intervened late in the natural history of a disease, to a preemptive model in which the onset of disease is significantly delayed or even never allowed to develop.

Based on the progress and discoveries made through NIH-supported research just in the last few years, NIH can foresee its vision of a future and transformative era of medicine and health care that is increasingly predictive, personalized and preemptive. This era will include more active participation by individuals and communities in their own care. Support for NIH will increase our ability to explore and understand the fundamental causes of disease at the earliest molecular stages and allow us to expand the ability to *predict* a disease before it develops. As we expand the knowledge of individual genetic differences and response to environment we will increase our ability to implement individually targeted or *personalized* treatment. Ultimately, this research should allow us to *preempt* disease before it occurs. Finally, critical components of this new revolutionary approach to 21<sup>st</sup> century medicine will result in greater *participation* of individuals, communities and healthcare institutions

Our vision for this future is emerging from NIH-funded researchers across the nation, as well as the thousands of scientists and laypersons from whom the NIH solicits input through our study sections and advisory councils. History demonstrates no one can predict where the next great discovery or life-saving breakthrough will occur. Therefore, NIH employs a robust system to inspire bright minds to propose their best and most innovative ideas to tackle current and emerging public health problems. The proposals undergo a rigorous peer review process and only those with most promise receive support. On occasion, NIH management takes a more active role to stimulate research in a pressing area like bioterrorism countermeasures or pandemic influenza. However, the workhorse of NIH research is the investigator-initiated project. These projects consistently provide discoveries that make Americans healthier and provide a training ground for the highly skilled individuals who work in the nation's pharmaceutical, biotechnology, and academic career fields. The Nation's return on investment in NIH is demonstrated by improved health for the Nation and this investment has strengthened the Nation's competitiveness and its economy.

US health expenditures continue to grow far faster than general inflation. Investments in NIH have led to progress in the fight against heart disease, cancer, and AIDS, among many others, and have helped save lives and avoid unnecessary health expenditures. At NIH, we believe health care costs will not be tempered unless we accelerate the discovery of transformative ways of practicing medicine – which can only happen through research.

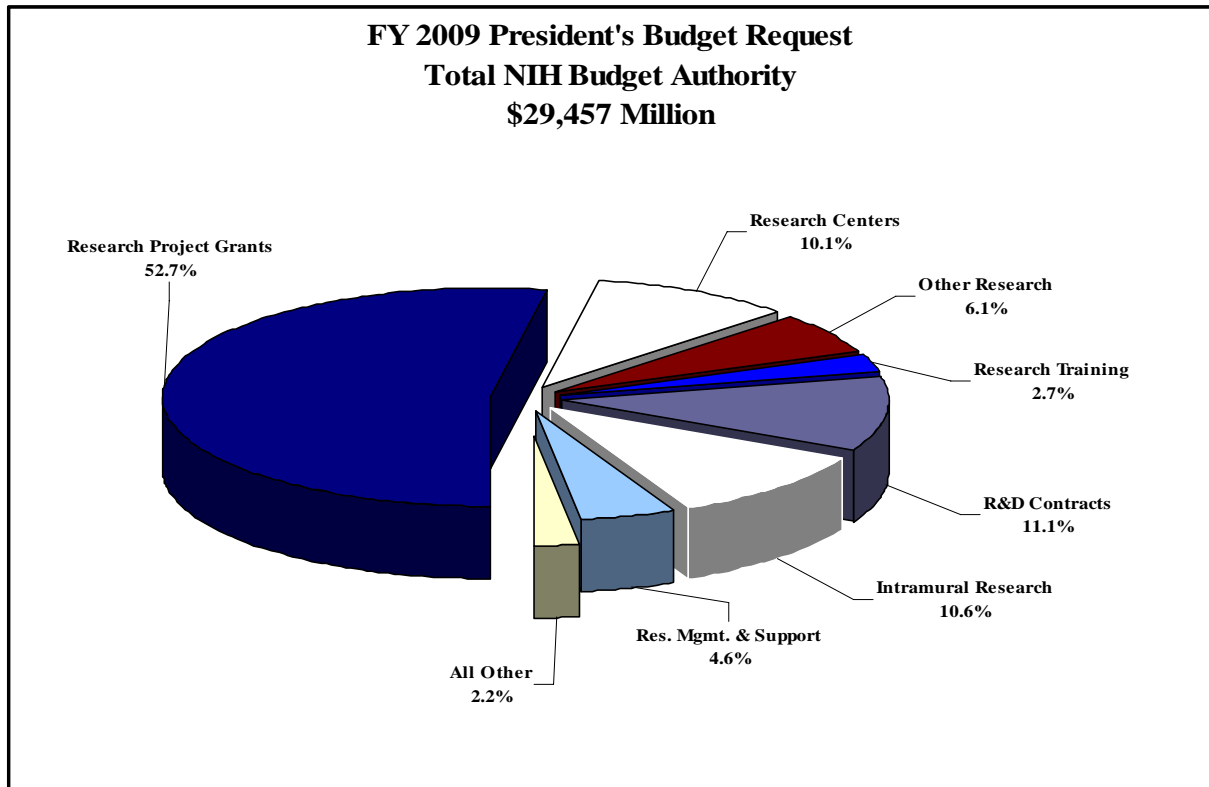
In the FY 2009 budget request, we have identified the following strategic priorities:

**Support New Investigators** – We will continue to nurture a vibrant, creative research workforce, and include sufficient numbers of new investigators with new ideas and new skills in areas such as interdisciplinary research. In FY 2007, we set a goal to sustain 1500 new investigators each year-- based on the NIH five year historical average. We exceeded this goal. To help ensure the pipeline of future investigators is maintained as the current workforce ages and begins to retire, we plan to continue support for the Pathway to Independence program with another 170 awards. In FY 2009, the Pathway program will support approximately 500 awardees at a total of \$71 million. In FY 2009 we will also support approximately 25 New Innovator Awards, for a total of \$56 million in the NIH Common Fund.

**NIH Director's Bridge Award** -- The FY 2009 Request level includes \$91.2 million to continue the NIH Director's Bridge Award program, to protect our investment in well-established and meritorious investigators with little or no other significant support.

**NIH Common Fund** – We plan continued support for the Common Fund in FY 2009 with a program level of \$534 million, an increase of \$38 million over the FY 2008 Enacted Level. The Common Fund is an incubator for new ideas and initiatives that will accelerate the pace of discovery. These initiatives are focused on efforts that no single or small group of Institutes or Centers could conduct on their own, and have potential to transform biomedical and behavioral research.

The second cohort of initiatives in the Common Fund was launched in FY 2007, and continues into FY 2008 and FY 2009. The two new program areas that began preparatory studies and projects in FY 2007 include projects in the 1) Human Microbiome—a project to characterize the microbial content of sites in the human body and their relationship to disease and the environment; and 2) Epigenomics—the study of stable genetic modifications and their relationship to disease. Funds are identified in the FY 2009 Common Fund for the continuation of these projects. In addition, the FY 2009 request has reserved up to \$46 million for new projects that will be developed during FY 2008. NIH will also continue the New Innovator Awards, at a level of \$56 million.



### Mechanism Discussion

Research project grants (RPGs) are the primary mechanism for funding of investigator-initiated biomedical research and support for RPGs remains a high priority in the FY 2009 President's Budget. This will enable NIH to maintain support for ongoing research and to support new researchers and new ideas to maintain the vitality of biomedical research.

Inflationary pressure on our research portfolio and scientific purchasing power remains a key concern; however, we have made the difficult decision to again eliminate inflationary increases for RPGs. While no inflationary increases are provided for direct, recurring costs in non-competing RPG's in the FY 2009 President's Budget, where the NIH has committed to a programmatic increase in an award, such increases will be provided. The average cost of competing RPGs will remain at the FY 2008 level.

In the FY 2009 President's Budget, NIH proposes to increase support for research centers to \$2,963 million, a 0.7% increase above the FY 2008 Enacted Level. This request level will continue to provide program growth for the Clinical and Translational Science Awards (CTSAs).

Support for Other Research decreases by \$23 million, or 1.3%. NIH will fund a third cohort of researchers in the Pathway to Independence program, with around 170 awards for \$15 million. Also in FY 2009, the 1<sup>st</sup> cohort of Pathway awards "graduate" into noncompeting RPGs. Total support for the Pathway program in FY 2009 is \$71 million and over 500 recipients. The

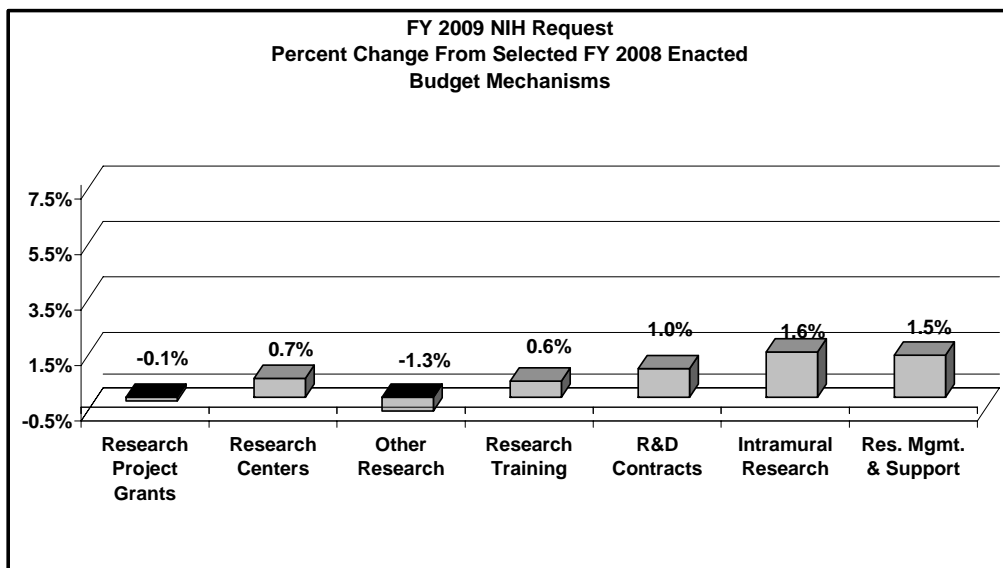
Roadmap program, Nanomedicine Centers, will continue to use the Flexible Research Authority of \$25 million, the same amount as FY 2008.

In order to achieve the NIH's research objectives, it is essential to ensure that highly trained scientists will be available to address the nation's biomedical, behavioral and clinical research needs. Pre-doctoral fellows, who currently receive \$20,772, have not seen a stipend increase since FY 2004. Post-doctoral fellows, who begin at \$36,996, have not seen a stipend increase since FY 2006 (for 0 to 1 year of experience only). In the FY 2009 President's Budget, NIH proposes modest stipend increases of 1% for both pre- and post-doctoral fellows. At the FY 2009 President's Budget level, NIH will support 17,586 Full-Time Training Positions (FTTPs), an increase of 17 FTTPs over the FY 2008 level. It is important to ensure the pipeline of future investigators is adequate as the current workforce ages and begins to retire. NRSA funding increases by \$5 million or 0.6% over the FY 2008 Enacted Level.

R&D contracts increase by \$33 million and 1% compared to the FY 2008 Enacted Level. This increase includes \$5 million in additional fund for the Global Fund for HIV/AIDS, Tuberculosis and Malaria to other high-priority NIH research programs. Total support for the Global Fund in FY 2009 is \$300 million.

In the FY 2009 Submission, support for the NIH intramural research program would increase by 1.6% above the FY 2008 Enacted Level, for a total of \$3,119 million. This increase maintains the intramural program at approximately 11% of NIH's overall budget.

For FY 2009, RMS would be funded at \$1,361 million, an increase of \$20 million and 1.5% above the FY 2008 Enacted Level, enabling appropriate administration of NIH resources. This will provide NIH with sufficient capacity to manage its research portfolios, and to ensure appropriate stewardship of all funds.



The OD decreases by \$52 million and 5%. The FY 2009 Request includes \$91.2 million for the NIH Director's Bridge Award program. No funds are provided for the National Children's Health Study.

The FY 2009 Request Level for B&F is \$133.4 million. Of this amount, \$7.8 million would be provided to the National Cancer Institute (NCI) for repairs and improvements at the NCI-Frederick campus. The B&F appropriation request of \$125.6 million provides for essential-only Repairs and Improvements, a modest amount for concept development studies and essential safety and regulatory compliance.

## NATIONAL INSTITUTES OF HEALTH

## Summary of Appropriations

(Dollars in millions)

Appropriation	FY 2007 Budget Authority 1/	FY 2008 Enacted 1/ 2/	FY 2009 Estimate 1/	2008/2007
	Includes AIDS	Includes AIDS	Includes AIDS	\$ Change
NCI	4,795	4,805	4,810	5
NHLBI	2,919	2,922	2,925	3
NIDCR	390	390	391	0
NIDDK 2/	1,856	1,857	1,858	2
NINDS	1,535	1,544	1,545	1
NIAID 3/	4,366	4,561	4,569	8
NIGMS	1,936	1,936	1,938	2
NICHHD	1,254	1,255	1,256	1
NEI	667	667	668	1
NIHHS	642	642	643	1
NIA	1,047	1,047	1,048	1
NIAMS	508	509	509	0
NIDCD	394	394	395	1
NIMH	1,404	1,405	1,407	1
NIDA	1,000	1,001	1,002	1
NIAAA	436	436	437	0
NINR	137	137	138	0
NHGRI	486	487	488	1
NIBIB	298	299	300	2
NCRR	1,144	1,149	1,160	11
NCCAM	121	122	122	0
NCMHD	199	200	200	0
FIC	66	67	67	0
NLM	320	321	323	3
OD	1,047	1,109	1,057	-52
B&F	81	119	126	7
Type 1 Diabetes	-150	-150	-150	0
<b>Subtotal, Labor/HHS</b>	<b>28,899</b>	<b>29,230</b>	<b>29,230</b>	<b>-0</b>
Interior Approp. for Superfund Res.	79	78	78	0
<b>Total, NIH Discretionary B.A.</b>	<b>28,978</b>	<b>29,307</b>	<b>29,307</b>	<b>-0</b>
Type 1 Diabetes	150	150	150	0
<b>Total, NIH Budget Authority</b>	<b>29,128</b>	<b>29,457</b>	<b>29,457</b>	<b>-0</b>
NLM Program Evaluation	8	8	8	0
<b>Total, Prog. Level</b>	<b>29,137</b>	<b>29,465</b>	<b>29,465</b>	<b>-0</b>

Totals may not add due to rounding

1/ Includes comparable program transfers

2/ Includes funds for the Type 1 Diabetes Initiative.

3/ Includes funds to be transferred to the Global Fund for HIV/AIDS, Malaria, and Tuberculosis.

**NATIONAL INSTITUTES OF HEALTH**  
**Budget Mechanism - Total**  
(Dollars in millions)

MECHANISM	FY 2007 Actual 1/		FY 2008 Enacted		FY 2009 Estimate		Change	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount
Research Grants:								
Research Projects:								
Noncompeting	26,741	\$11,005	26,728	\$11,194	26,759	\$11,169	31	-\$25
Administrative supplements	(1,633)	205	(1,684)	195	(1,776)	214	(92)	19
Competing	10,323	3,788	9,771	3,534	9,757	3,520	(14)	-14
Subtotal, RPGs	37,064	14,998	36,499	14,923	36,516	14,903	17	-20
SBIR/STTR	1,781	629	1,740	620	1,741	620	1	0
Subtotal, RPGs	38,845	15,627	38,239	15,543	38,257	15,523	18	-20
Research Centers:								
Specialized/comprehensive	1,193	2,238	1,150	2,225	1,155	2,231	5	6
Clinical research	88	381	88	418	72	423	-16	5
Biotechnology	109	137	106	124	102	124	-4	0
Comparative medicine	54	124	54	122	60	131	6	9
Research Centers in Minority Institutions	28	54	28	54	28	54	0	0
Subtotal, Centers	1,472	2,934	1,426	2,943	1,417	2,963	-9	20
Other Research:								
Research careers	4,293	663	4,451	688	4,449	685	-2	-3
Cancer education	89	31	89	32	89	32	0	0
Cooperative clinical research	435	425	427	425	427	425	0	0
Biomedical research support	188	98	143	64	144	64	1	0
Minority biomedical research support	165	111	161	110	161	110	0	0
Other	1,756	465	1,726	490	1,706	470	-20	-20
Subtotal, Other Research	6,926	1,793	6,997	1,809	6,976	1,786	-21	-23
Total Research Grants	47,243	20,354	46,662	20,295	46,650	20,272	-12	-23
Ruth L. Kirschstein Training Awards:								
Individual awards	2,982	121	2,997	122	3,004	124	7	2
Institutional awards	14,614	661	14,572	660	14,582	663	10	3
Total, Training	17,596	782	17,569	782	17,586	787	17	5
Research & development contracts (SBIR/STTR)	2,895 (98)	2,985 (26)	2,886 (106)	3,242 (29)	2,913 (106)	3,275 (29)	27 (0)	33 (0)
Intramural research		3,035		3,069		3,119		50
Research management and support		1,317		1,341		1,361		20
Extramural Construction		14		0		0		0
Office of the Director (Appropriation)		473 (1,047)		524 (1,109)		432 (1,057)		-92 (-52)
Buildings and Facilities 1/ (Appropriation)		89 (81)		127 (119)		133 (126)		6 (7)
NIH Roadmap for Medical Research* Type 1 Diabetes 2/		(483) -150		(496) -150		(534) -150		(38) 0
<b>Subtotal, Labor/HHS Budget Authority</b>		<b>28,899</b>		<b>29,230</b>		<b>29,230</b>		<b>0</b>
Interior Appropriation for Superfund Res.		79		78		78		0
<b>Total, NIH Discretionary B.A.</b>		<b>28,978</b>		<b>29,307</b>		<b>29,307</b>		<b>0</b>
Type 1 Diabetes 2/		150		150		150		0
<b>Total, NIH Budget Authority</b>		<b>29,128</b>		<b>29,457</b>		<b>29,457</b>		<b>0</b>
NLM Program Evaluation		8		8		8		0
<b>Total, Program Level</b>		<b>29,137</b>		<b>29,465</b>		<b>29,465</b>		<b>0</b>

**May not add due to rounding**

\*Included in above mechanisms.

1/ Includes the B&amp;F appropriation plus the following included in NCI -- FY 06: \$7.9M; FY 07: \$7.9M; FY 08: \$7.8M.

2/ Included in NIDDK -- FY 07: \$150M; FY 08: \$150M; FY 00: \$150M for Type I Diabetes Initiative.

**Numbers of grants identified in FY 2008 and FY 2009 are estimates, and WILL change as applications are received and selected for funding.**

NIH has modified its traditional budget display by mechanism so that activities of the National Cancer Institute's Cancer Prevention and Control Program and the National Library of Medicine are allocated among the various trans-NIH mechanisms of support.