
NIH Budget Growth Slows to 2 Percent in FY 2004

AAAS R&D Funding Update on R&D in the FY 2004 NIH Budget

(All figures in this analysis are **preliminary** and will be revised in later AAAS releases. This analysis is a preview of the NIH chapter in the forthcoming *AAAS Report XXVIII: Research and Development FY 2004*, a comprehensive look at the President's budget for R&D in FY 2004. More tables and continually updated supplemental materials on R&D in the FY 2004 budget can be found on the AAAS R&D Web site at <http://www.aaas.org/spp/rd.>)

Highlights

- After an almost-completed five-year doubling campaign involving 15 percent increases for each of the past five years, **growth in the National Institutes of Health (NIH) budget would slow sharply to just 2 percent in FY 2004** from the requested FY 2003 level, to \$27.9 billion.
- **NIH research (basic and applied) would increase 5.0 percent** to \$26.9 billion, greater than the 2 percent increase for the overall NIH budget, because NIH would discontinue most of its FY 2003 facilities funding and shift the money to research in FY 2004. NIH R&D, including facilities funding, would rise 2.0 percent to \$27.0 billion, just slightly ahead of the 1.9 percent projected inflation rate.
- **The big winner would again be the National Institute of Allergy and Infectious Diseases (NIAID)** which would receive a boost of 8.9 percent to \$4.3 billion as NIH's lead institute for its \$1.6 billion bioterrorism R&D portfolio. Congress is still considering the FY 2003 NIH budget, which would boost the NIAID budget more than 50 percent over FY 2002 to \$4.0 billion.
- **Most NIH institutes would receive increases between 3 and 5 percent** within the tight overall funding environment.
- **Buildings and Facilities funding would fall from a requested \$769 million in FY 2003** down to \$80 million; in FY 2004, NIH would discontinue most FY 2003 one-time funding for facilities construction, including funding for extramural and intramural biodefense research laboratories and NIH facilities improvements. NIH would also discontinue an \$82 million program for extramural construction in the National Center for Research Resources (NCRR) in FY 2004, leaving NCRR the only NIH institute to see its budget decline (down 1.0 percent to \$1.1 billion).

Introduction and Political Environment

The National Institutes of Health (NIH) is the second-largest supporter of R&D in the federal government, after the Department of Defense. In its mission to promote biomedical research and other fundamental inquiries that may lead to medical advances, it is by far the largest federal supporter of basic research, applied research, and R&D at colleges and universities, and has a disproportionate impact on support for the life sciences and related fields. Because of its support of research that offers the hope of breakthrough advances in the treatment of disease, NIH has long been popular both in Congress and with presidential administrations of both parties, and benefits from strong support not only in the scientific community but also from an extensive network of disease-oriented patient advocacy groups.

The FY 2004 budget request of \$27.9 billion for NIH would be a \$549 million (or 2.0 percent) increase over last year's FY 2003 request (see Table II-9). That FY 2003 request is still before Congress as part of the unfinished FY 2003 appropriations process; although FY 2003 is already four months old, NIH has been operating at FY 2002 funding levels since October 1. The budget would be \$27.9 billion with the inclusion of \$150 million in mandatory diabetes research funds.

NIH classifies 97 percent of its budget as R&D, including R&D facilities. (The remainder is for overhead costs and research training.) Its FY 2004 R&D would total \$27.0 billion, a 2.0 percent increase.

NIH may have to adjust to diminished expectations after years of favored treatment. After an almost-completed five-year doubling campaign involving 15 percent increases for each of the past five years, growth in the National Institutes of Health (NIH) budget would slow sharply in FY 2004. Although the Bush Administration and Congress are committed to finishing the doubling process between FY 1998 and FY 2003, there have never been any promises for continuing growth in FY 2004 and beyond.

In fact, **even the final installment of the doubling plan in FY 2003 is now in doubt** because of tight budget restrictions on domestic spending favored by the President and most congressional Republicans. Although the President's budget from last February requested \$27.3 billion for NIH in FY 2003, completing the doubling campaign, the latest House and Senate proposals would fall short of that target. Faced with a tight overall cap on domestic spending, appropriators have carved away some of the proposed increase for other programs. The draft House Labor/HHS bill from January would provide \$26.8 billion in FY 2003 for NIH, falling short of the doubling goal by roughly \$400 million. The latest Senate proposal, in an omnibus appropriations bill approved by the full Senate late last month, would complete the five-year NIH doubling plan in its NIH appropriation, but the bill also contains an across-the-board cut to all programs that would leave NIH nearly \$800 million short of the doubling level. (See the January 23 R&D Funding Update for details of the Senate proposal, and the January 16 NIH R&D Funding Update for details of the House proposal).

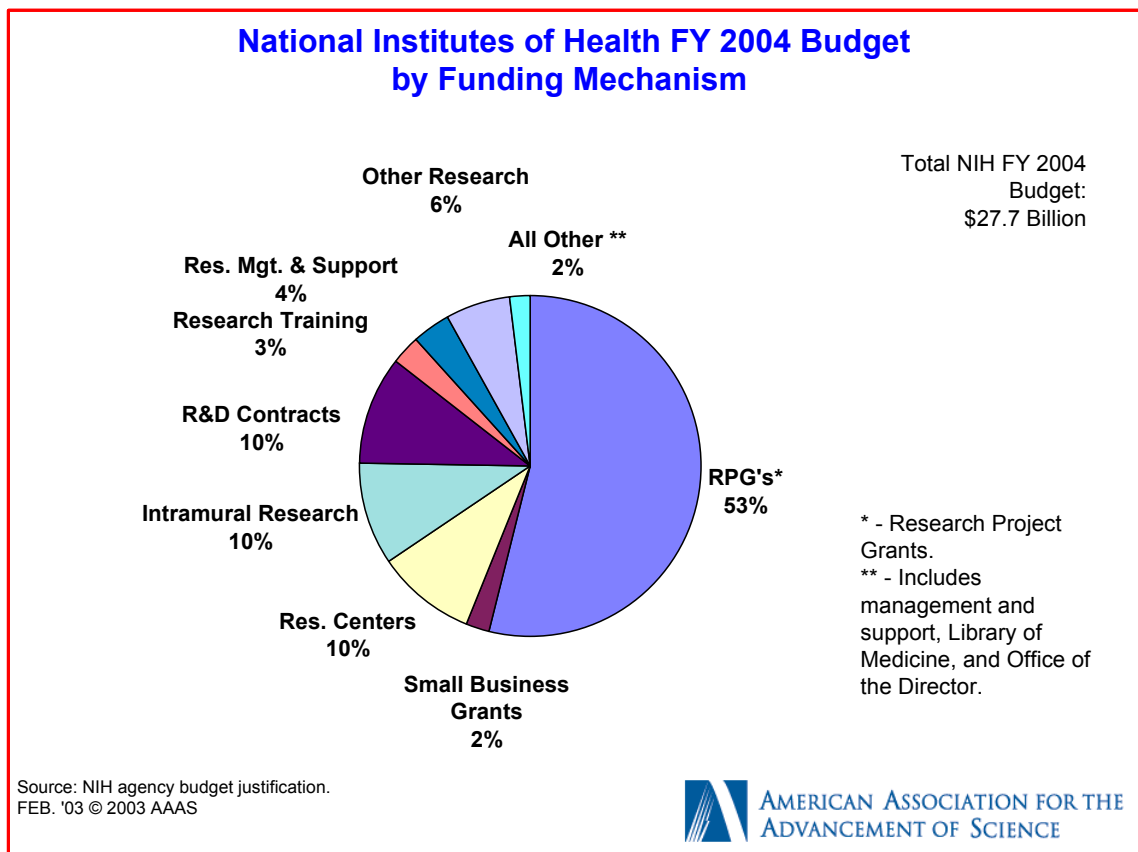


Figure 1. (click on the image to view or download a full-page color PDF version of the chart)

Regardless of what happens in the FY 2003 budget, which could be finalized this month or could drag on even longer, the FY 2004 requested funding level for NIH will not change. The FY 2004 budget also contains preliminary projections for the NIH budget out to FY 2008. The Administration plan calls for

similar increases to the FY 2004 increase in the years between FY 2005 and FY 2008, resulting in an FY 2008 budget of \$30.4 billion, barely staying ahead of projected inflation.

Funding Request and Priorities

Within a 2.0 percent requested budget increase, basic and applied research would fare better than the overall budget because there would be steep cuts in NIH's facilities funding. **NIH research (basic and applied) would increase 5.0 percent** to \$26.9 billion. NIH would discontinue most of its FY 2003 facilities funding and shift the money to research in FY 2004.

Most NIH institutes would receive increases between 3 and 5 percent within the tight overall funding environment.

The majority of NIH's budget is distributed to external performers through Research Project Grants (RPGs), which are investigator initiated, peer reviewed, and competitively awarded (see Figure 1). (NIH funding by institute is found in Table II-9; its budget by funding mechanism is found in Table II-10.) **RPG funding would increase by 6.2 percent** in FY 2004 to reach \$14.6 billion. These funds would support a record 37,467 RPGs, an increase of 1,107 awards over FY 2003 assuming both the FY 2003 and FY 2004 requests are approved as proposed (see Figure 2). Included in this total would be a record 10,509 new competing RPGs, 3.4 percent more than in FY 2003.

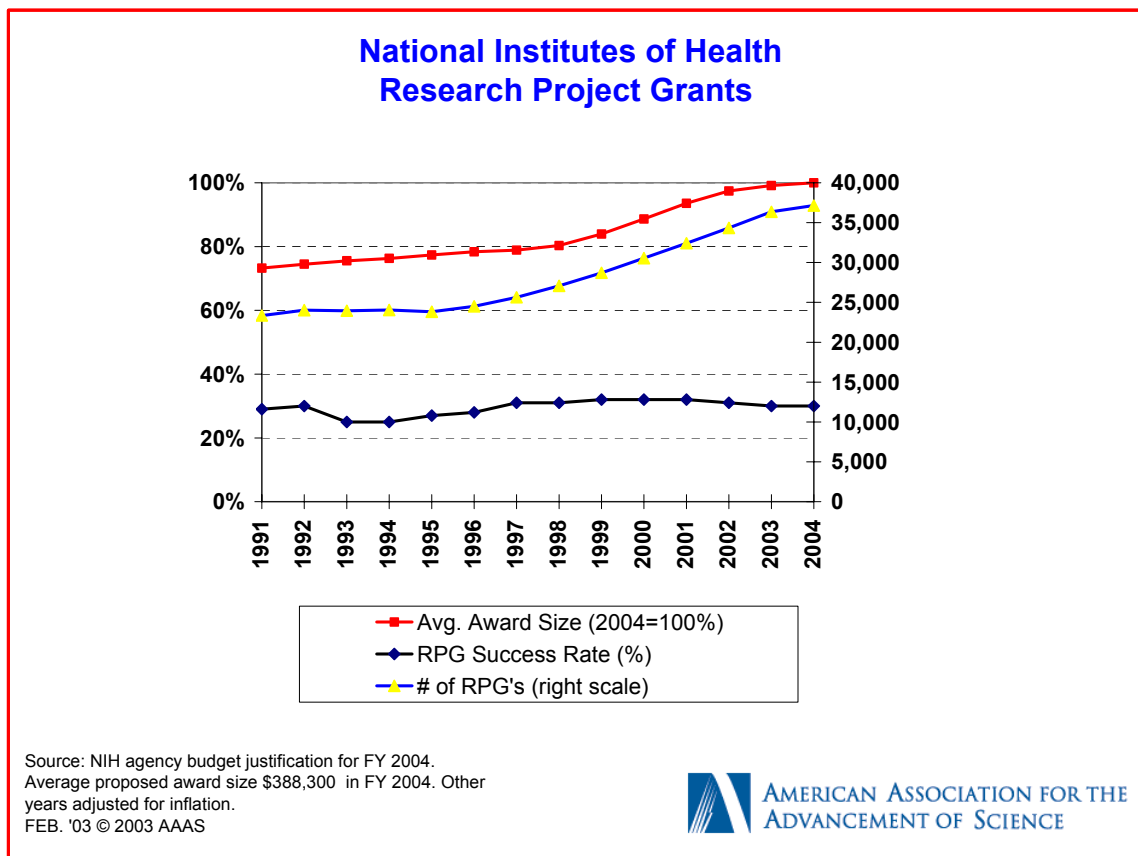


Figure 2. (click on the image to view or download a full-page color PDF version of the chart)

The success rate for grant applications would dip slightly to 30 percent in FY 2004 from a high of 32 percent in FY 2001 (see Figure 2) because of a large expected increase in the number of applications, with expected success rates varying from 11 percent to 42 percent depending on the institute, each of which conducts its own grant solicitation process. Toward the low end would be the National Cancer Institute

(NCI), with an expected success rate of 25 percent, and the National Institute of Neurological Disorders and Stroke (NINDS) with 28 percent; toward the high end would be the National Institute of Diabetes, Digestive and Kidney Disorders (NIDDK) at 42 percent and the National Institute of Allergy and Infectious Diseases (NIAID) at 39 percent.

For successful applicants, there would be some good news. **The 2.7 percent average increase for all grants between FY 2003 and FY 2004 would stay slightly ahead of projected inflation (see Figure 2)**, but the average new grant in FY 2004 at \$357,300 would be only 0.5 percent higher than the average new grant in FY 2003, a gain of less than \$2,000.

In addition to RPGs, NIH also distributes funds through Small Business Innovation and Research (SBIR) grants (RPGs awarded through a special competition for small and medium-sized businesses), competitively selected research centers, and a number of specialized research competitions. NIH also distributes about 10 percent of its budget (\$2.8 billion in FY 2004) through R&D contracts (see Figure 1). NIH distributes approximately 85 percent of its budget to extramural performers; approximately 10 percent to intramural research, mostly at NIH's Bethesda, Maryland, campus; and the remaining 5 percent to management, administration costs, and intramural facilities.

The majority of NIH's extramural support goes to colleges and universities; as a result, NIH is by far the largest federal supporter of R&D at colleges and universities with nearly two-thirds of the federal total. Because the federal government funds 58 percent of all R&D at colleges and universities, at most universities and colleges with medical schools NIH is the single largest funding source for R&D.

NIH classifies the majority of its budget as basic research, \$15.0 billion out of \$27.9 billion in FY 2004 (up 4.7 percent). NIH is by far the largest federal supporter of basic research, and in FY 2004 would provide 55 percent of all federal support, a share that has been steadily increasing for decades. NIH is also the largest federal supporter of applied research, \$11.9 billion in FY 2004 (44 percent of all federal support).

NIH does not classify any of its work as development, and would fund \$104 million in R&D facilities and capital equipment in FY 2004, a sharp drop of nearly 90 percent from the FY 2003 funding level of \$871 million. Most of this funding comes from the Buildings and Facilities account, which would fall from a requested \$769 million in FY 2003 down to \$80 million; **in FY 2004, NIH would discontinue most FY 2003 funding for facilities construction**, including funding for extramural and intramural biodefense research laboratories and NIH facilities improvements. While these construction projects are multi-year projects, the money will be paid out over many years out of FY 2003 funds. Included in the FY 2003 request is \$375 million in funding for competitively awarded construction grants to build new university-based biodefense research laboratories. FY 2003 intramural funds would further improve NIH laboratory security, build a new laboratory in Fort Detrick, Maryland, for bioterrorism research, build a new laboratory on the NIH campus to study infectious agents, and finish construction of NIH's new Neuroscience Research Center.

NIH would also discontinue an \$82 million program for extramural construction in the National Center for Research Resources (NCRR) in FY 2004, leaving NCRR the only NIH institute to see its budget decline (down 1.0 percent to \$1.1 billion). The program received \$110 million in the last completed budget (FY 2002).

NIH has supported bioterrorism-related research for years, but its research portfolio became more vital following the 2001 postal anthrax attacks. In the FY 2003 request, NIH proposed to become the lead research agency in the burgeoning federal effort to combat bioterrorism in a profound shift from DOD's traditional lead role dating back to when concern over bioterrorism was focused on military troops rather than the U.S. civilian population. NIH identified \$1.7 billion for bioterrorism-related R&D and infrastructure in FY 2003, up substantially from only \$275 million in FY 2002 which itself was a major boost from \$50 million in FY 2001. **In FY 2004, NIH bioterrorism R&D drops slightly to \$1.6 billion** because of the one-time biodefense laboratory construction funds, but funding of bioterrorism research grants would more than double.

Most of the new bioterrorism funds would go to the National Institute of Allergy and Infectious Diseases (NIAID), which would receive a boost of nearly 60 percent to \$4.0 billion as NIH's lead institute for bioterrorism R&D in the pending FY 2003 request and would increase a further 8.9 percent to \$4.3 billion in FY 2004.

HIV/AIDS research is another priority in the budget as part of the Bush Administration's State of the Union pledge to dramatically expand the fight against global HIV/AIDS. The NIH HIV/AIDS R&D portfolio would expand 4.0 percent in FY 2004 to reach \$2.9 billion. Most of this research would be funded by NIAID, the lead institute for AIDS research; included in the FY 2004 budget is \$100 million (the same as the FY 2003 proposal) to be transferred to the **Global Fund to Fight HIV/AIDS, Malaria, and Tuberculosis** – an international public-private partnership to provide grants for the prevention, treatment, and cure of these diseases.

An NCRR program receiving extra attention in the FY 2004 budget is the Institutional Development Award (IdeA) program, which would receive \$210 million, up from \$185 million in FY 2003 and \$160 million in FY 2002. IdeA provides support to enhance the research capacities of states that have been underrepresented in winning NIH funds in the past. IdeA is similar to NSF and other agencies' Experimental Program to Stimulate Competitive Research (EPSCoR), also aimed at improving the research capacities of underrepresented states. IdeA's main goal is to develop critical masses of competitive researchers in IdeA states.

NIH is heavily involved in research training of the next generation of biomedical researchers. Research training programs would receive \$716 million in FY 2004, up 3.2 percent from the FY 2003 estimate. This increase would allow for a total of 17,197 full-time training positions, up 80 from FY 2003, of which 74 would be additional trainees for biodefense research. Stipends for predoctoral trainees would increase from \$18,876 to \$19,632 in FY 2004 (up 4 percent) while stipends for postdoctoral trainees would range from \$33,624 to \$49,584 in FY 2004 based on experience, with increases between 1 to 4 percent compared to the previous year.

Outlook and Historical Trends

NIH has enjoyed steady budget growth over the past several decades, as shown in Figure 3, but growth accelerated sharply beginning after FY 1998 when the doubling campaign began. The doubling plan will conclude successfully if Congress approves the FY 2003 request, but the FY 2004 proposal would halt the growth and would keep the NIH budget just even with inflation. Because of this spectacular budget growth in recent years, NIH now funds as much R&D as all the other nondefense R&D funding agencies combined.

The outlook for the NIH budget in FY 2004 depends crucially on what happens in the FY 2003 budget process. Although there is a chance that the doubling goal of \$27.3 billion will not be met in the final FY 2003 budget, the final budget should be close to that number. As for FY 2004, there will be tremendous political pressure for Congress to approve an increase for NIH far larger than the 2 percent proposal.

Table II-9. NIH R&D by Institute

Table II-9. R&D in the National Institutes of Health by Institute
(budget authority in millions of dollars)

	FY 2002	FY 2003	FY 2004	Change FY 03-04	
	Actual	Estimate	Budget	Amount	Percent
Cancer	4,114	4,609	4,771	162	3.5%
Heart, Lung and Blood	2,554	2,762	2,868	106	3.8%
Dental & Cranofacial Research	342	369	382	13	3.5%
Diabetes & Digestive & Kidney Dis	1,560	1,703	1,820	117	6.9%
Neurological Disorders and Stroke	1,309	1,416	1,469	53	3.7%
Allergy and Infectious Diseases	2,526	3,981	4,335	354	8.9%
General Medical Sciences	1,698	1,849	1,923	74	4.0%
Child Health & Human Dev.	1,109	1,195	1,245	50	4.2%
Eye	580	625	648	23	3.7%
Environmental Health Sciences ¹	644	685	710	25	3.6%
Aging	891	958	994	37	3.8%
Arthritis & Musculoskeletal & Skin	447	485	503	17	3.6%
Deafness & Commun. Disorders	341	366	380	15	4.0%
Mental Health	1,234	1,333	1,382	50	3.7%
Drug Abuse	892	960	996	36	3.7%
Alcohol Abuse and Alcoholism	383	415	430	15	3.7%
Nursing Research	120	130	135	5	3.8%
Research Resources	985	1,065	1,054	-11	-1.0%
Human Genome Research	428	458	478	20	4.4%
Complementary & Alternative Med.	104	112	116	4	3.3%
Fogarty International Center	56	62	64	2	4.0%
National Library of Medicine	274	306	316	10	3.3%
Office of the Director	253	274	318	44	16.1%
Minority Health/Health Disparities	157	186	193	7	3.7%
Biomed. Imaging/Bioengineering	262	270	282	12	4.3%
Buildings and Facilities	296	769	80	-689	-89.6%
Total NIH Budget	23,559	27,343	27,893	549	2.0%
<i>minus Est. Research Training</i>	<i>-653</i>	<i>-693</i>	<i>-716</i>	<i>-22</i>	<i>3.2%</i>
<i>minus Other Non-R&D</i>	<i>-458</i>	<i>-206</i>	<i>-216</i>	<i>-10</i>	<i>4.9%</i>
Total NIH R&D	22,448	26,444	26,961	517	2.0%

Source: OMB data for R&D for FY 2004 and NIH budget office documents.

¹ Funding for all years includes Superfund-related transfers and appropriations.

All figures are rounded to the nearest million. Changes calculated from unrounded figures.

FY 2003 figures are based on the President's FY 2003 request, and will be revised when FY 2003 appropriations are complete.**AAAS - Preliminary February 6, 2003 - will be revised.**

From the forthcoming AAAS Report XXVIII: R&D FY 2004 .

Table II-10. NIH by Funding Mechanism

Table II-10. National Institutes of Health by Funding Mechanism
(budget authority in millions of dollars) ¹

	FY 2002 Actual	FY 2003 Estimate	FY 2004 Budget	Change FY 03-04 Amount	Percent
Research Project Grants	12,514	13,745	14,602	857	6.2%
{# of Non-Competing}	24,856	26,195	26,958	763	2.9%
{# of New / Competing}	9,471	10,165	10,509	344	3.4%
{Total # of Grants}	34,337	36,360	37,467	1,107	3.0%
SBIR / STTR Grants ³	503	553	602	49	8.9%
{# of SBIR / STTR Grants}	1,894	1,949	2,053	104	5.3%
Research Centers	2,117	2,422	2,589	167	6.9%
R&D Contracts	1,797	2,430	2,779	349	14.3%
Intramural Research	2,234	2,549	2,630	81	3.2%
Other Research	1,446	1,609	1,662	53	3.3%
Research Mngmt. & Support	786	920	969	49	5.3%
Research Training	653	693	716	22	3.2%
Library of Medicine	274	306	316	10	3.3%
Office of the Director	253	274	318	44	16.1%
NIEHS Appropriation (Superfund)	81	76	79	3	4.0%
Buildings and Facilities	296	769	80	-689	-89.6%
Extramural Facilities Construction	118	457	0	-457	-100.0%
Cancer Prevention and Control	487	540	552	12	2.2%
Total NIH Budget	23,559	27,343	27,893	549	2.0%

Source: NIH budget justification. Totals may not add due to rounding.

Includes mandatory (non-appropriated) funds for diabetes research in NIDDK.

¹ All NIH support, including non-R&D activities such as research training.

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