

## House Approves NIH Budget with 2.6 Percent Increase in 2005

REVISED AAAS R&D Funding Update on R&D in FY 2005 NIH House Appropriations

### Highlights

- **This week, the House is set to approve a budget bill that would match the FY 2005 request for the National Institutes of Health (NIH)** of \$28.8 billion, a 2.6 percent increase to \$28.8 billion (see Table 1).
- **Most NIH institutes would receive increases in a narrow range between 2.8 and 3.3 percent;** there would be no clear favorites, unlike the past two years when biodefense research was heavily favored.
- **NIH research (basic and applied) would increase 2.5 percent** to \$27.7 billion, far below the growth rates of the past six years.
- **The House plan would confirm NIH estimates that the total number of NIH Research Project Grants (RPGs) would barely increase next year by 1.4 percent;** the number of new grants would rise slightly, but only back to last year's level after falling this year. The RPG proposal success rate would fall to 27 percent in 2004 and stay there in 2005, down from 30 percent last year. The average grant size would rise just 1.3 percent, well below the 3.5 percent expected inflation rate for biomedical research.
- The report accompanying the bill contains language urging NIH to make scientific journal articles resulting from NIH-funded research publicly available. In response, NIH has begun to formulate a new policy for public access to journal articles.
- R&D in the Department of Health and Human Services (HHS) would rise 2.9 percent to \$29.3 billion. Although less than the request, the House would boost R&D substantially in the Food and Drug Administration (FDA) and the Office of the HHS Secretary for biodefense (see Table 2).

### NIH R&D in FY 2005 House Appropriations

This week, the House of Representatives is debating a Labor-HHS appropriations bill (HR 5006) that would give \$28.8 billion to the National Institutes of Health (NIH) in FY 2005. The full House is expected to approve the bill on September 9. The House would match NIH's requested 2.6 percent increase for the total budget, with each institute receiving the amount requested (see Table). NIH classifies 97 percent of its budget as R&D, including R&D facilities (the remainder is for overhead costs and research training). The House plan would provide \$27.9 billion for NIH R&D, also a 2.6 percent increase over this year. (For details of the NIH request, see Chapter 8 of *AAAS Report XXIX: R&D FY 2005* or the February 20 AAAS R&D Funding Update).

NIH and the NIH community are adjusting to diminished expectations after years of favored treatment. After a completed five-year doubling campaign involving 15 percent increases for each of the five years between 1998 and 2003 (see Figure 1), biomedical researchers hoped for a 'soft landing' in following years, or a gradual easing into slower growth rates. Instead, growth has slowed dramatically. NIH enjoyed steady budget growth over the past several decades, as shown in Figure 1, but growth accelerated sharply after FY 1998 and continued to FY 2003 during the five-year NIH doubling campaign. But then growth slowed down to just ahead of the inflation rate in FY 2004, and would slow down some more in FY 2005 in the NIH request and the House plan. There was political pressure for Congress to approve an increase for NIH larger than the 2.6 percent proposal, but the House Appropriations Committee was stymied by

tight restraints on overall domestic discretionary spending proposed by the President and affirmed by the House in its budget resolution.

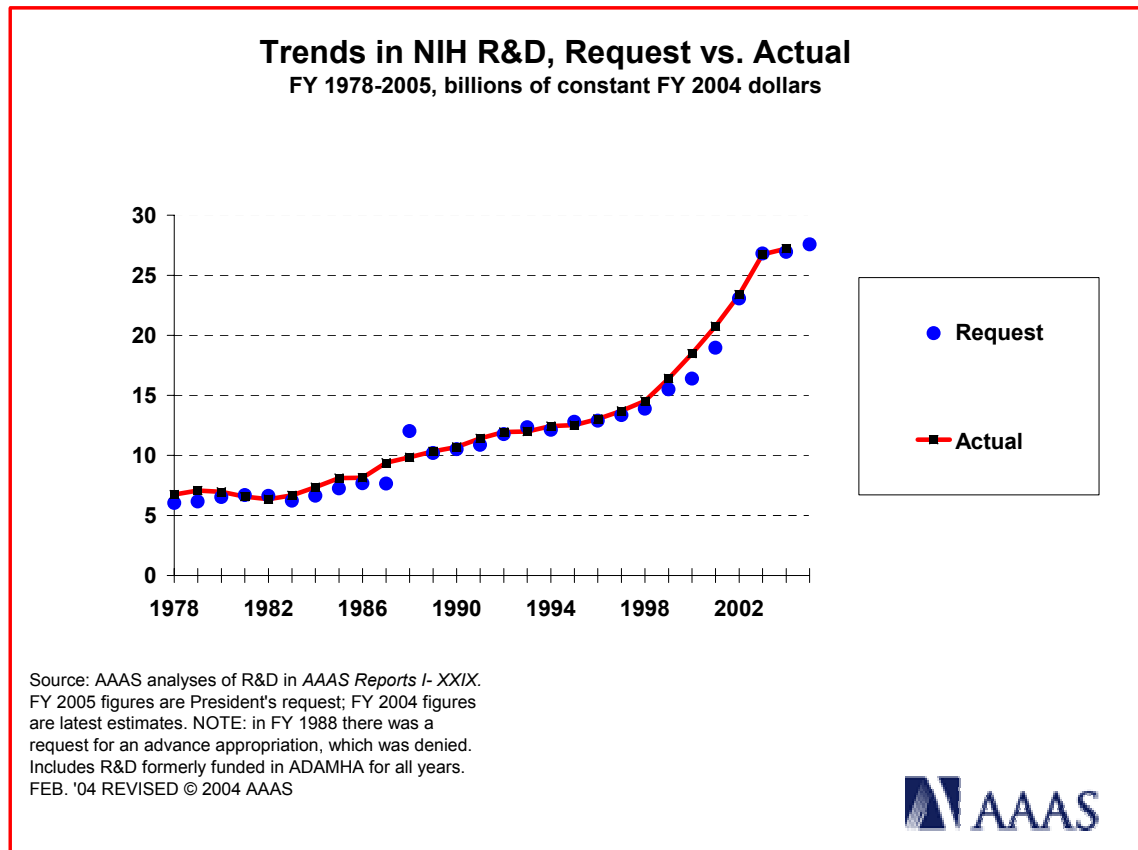


Figure 1. (click on the image to view or download a full-page color PDF version of the chart)

**Most NIH institutes would receive increases in a narrow range between 2.8 and 3.3 percent** within the tight overall funding environment (see Table 1). There would be no clear favorites, unlike the past two years when biodefense research, mostly in the National Institute of Allergy and Infectious Diseases (NIAID), was heavily favored.

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 2). **The House appropriation and the request would allow RPG funding to increase by 2.7 percent** in FY 2005 to reach \$14.9 billion. These funds would support a record 37,744 RPGs, an increase of 515 awards over FY 2004 (up 1.4 percent; see Figure 2). Because RPGs are multi-year grants, the number of new grants initiated in FY 2005 would be far smaller. In FY 2005, the number of new grants would rise slightly to 10,393, but only back to the FY 2003 level after falling this year.

**The success rate for new grant applications would dip to 27 percent** in FY 2004 and would stay there in FY 2005, down from a high of 32 percent in FY 2001 (see Figure 2) and the lowest since FY 1995 because of recent surges in the number of applications outpacing the number of grants awarded. Although the number of RPGs has increased from 25,000 in the early '90s to more than 35,000 (see Figure 2), the number of grant applications has increased so fast that the success rate is now well below the success rates of the NIH doubling period 1998-2003 when they exceeded 30 percent.

**The House plan would result in nearly every institute funding a smaller percentage of proposals in FY 2005 than in the past, despite the recent doubling of the NIH budget.** Expected success rates vary by institute, each of which conducts its own grant solicitation process, from a low of 15 percent (NIBIB) to a not-so-high rate of 33 percent (NHLBI and NIDDK). Among the largest institutes, the National Cancer Institute (NCI) expects a success rate of just one in four applications (24 percent), down steadily from 33 percent in 1998 before the doubling campaign. The National Heart, Lung and Blood Institute (NHLBI)'s 33 percent success rate may be high among the institutes in FY 2005, but would be down from 36 percent three years ago. Even the National Institute of Allergy and Infectious Diseases (NIAID), whose budget has grown the most dramatically recently, has seen the pool of applications grow even faster so that its 27 percent expected success rate in FY 2005 would represent a steady downward trend from 43 percent in 1997, again before the NIH doubling campaign. **In fact, every NIH institute (except NIEHS) would have a lower success rate in FY 2005 than in at least one of the years just before the NIH doubling campaign.**

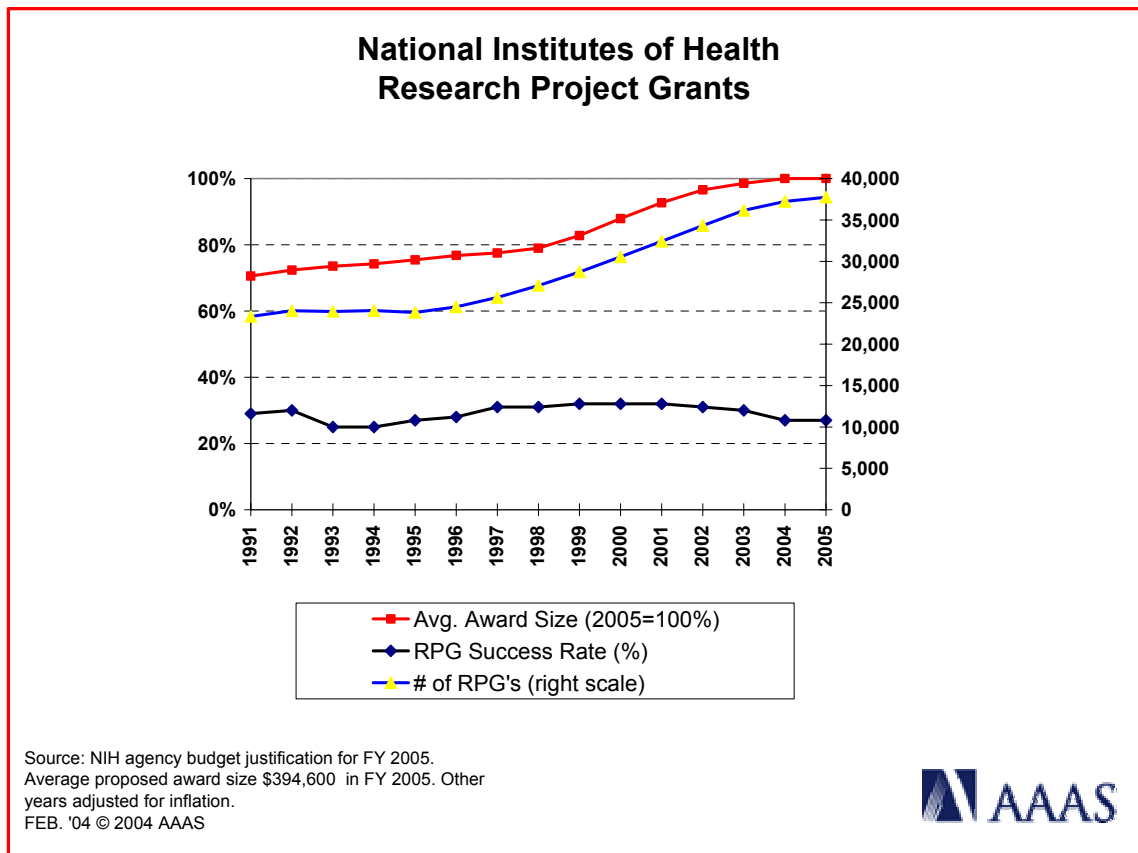


Figure 2. (click on the image to view or download a full-page color PDF version of the chart)

Even for successful applicants, there would be some disappointments in the budget. **The 1.3 percent average increase for all grants between FY 2004 and FY 2005 would just match the expected rate of inflation for the economy as a whole (see Figure 2),** but would fall behind the NIH-calculated Biomedical Research and Development Price Index (BRDPI) that attempts to calculate the inflation rate for goods and services purchased by the NIH budget. Recently, NIH calculated the BRDPI increase for FY 2005 to be 3.5 percent. In recent years, the BRDPI inflation rate has outpaced the economy-wide inflation rate by more than 2 percent a year. (AAAS, and the federal government, uses the economy-wide GDP deflator to adjust R&D dollars for inflation.)

**The average size of competing RPGs, however, would decline in FY 2005.** The average new grant at \$347,300 would be 0.6 percent below the expected average of \$349,300 this year, though slightly above

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the \$338,600 average of last year. Much of the decline is due to an unusual number of large, one-time grants in FY 2004, according to NIH; the average new multi-year grant would be 1.0 percent larger.

**NIH would fund \$258 million in R&D facilities and capital equipment in FY 2005, up 14.2 percent from this year** but a sharp drop from \$1.1 billion last year. Much of this funding comes from the Buildings and Facilities account, which would hold steady at \$100 million in FY 2005; in 2003, this account was \$639 million because of a major investment in biodefense facilities construction. The B&F appropriation funds intramural construction at NIH facilities, while in the NIAID budget there would be \$150 million for extramural construction grants to build an additional 20 extramural biosafety (level 3) laboratories around the nation. The House would go along with this proposal, and in July President Bush signed into law the Project Bioshield Act (Public Law 108-276) that increases the federal share of these NIAID-funded projects to 75 percent from the current 50 percent. The NIAID funding would be the second phase after a one-year pause in FY 2004; in FY 2003, NIAID initiated the first round of extramural biosafety facilities construction with \$373 million mostly for BSL-4 facilities.

**The House would go along with NIH plans to discontinue a \$119 million program for extramural construction** in the National Center for Research Resources (NCRR) in FY 2005, leaving NCRR the only NIH institute to see its budget decline (down 7.2 percent to \$1.1 billion). There was a similar proposal last year, but Congress added back these competitively awarded construction grants in the FY 2004 appropriations process; the fate of this program now rests with the Senate. The House would provide the requested \$222 million in FY 2005 for another NCRR program, the Institutional Development Award (IDeA) program, up from \$215 million in FY 2004. IDeA provides support to enhance the research capacities of 23 states that have been underrepresented in winning NIH funds in the past.

The House bill contains only minor quibbles with NIH's policies. The bill's accompanying language denies NIH's request to fully fund the multi-year costs of selected grants entirely in the FY 2005 budget; instead, NIH must continue to fund all grants year by year except for a few small grants. NIH made a similar request last year, also denied. The bill also contains an annually renewed provision prohibiting NIH from funding human embryo research or any research in which human embryos would be destroyed.

**The House bill contains language that could change how NIH-funded research is published.** The report accompanying the bill includes nonbinding language calling on NIH to outline a policy by December to allow public access to all NIH-funded research results. Since the language first came to light in July, NIH has already held a number of meetings with scientific journal publishers and other interested groups. Last week, NIH published a notice announcing a draft policy for public comment that would respond to the report language. The draft policy would require that "grantees and supported Principal Investigators provide the NIH with electronic copies of all final version manuscripts upon acceptance for publication if the research was supported in whole or in part by NIH funding." NIH would then archive the manuscript in its PubMed Central database six months after publication, making it freely available to the public. Public comments will be accepted until early November.<sup>1</sup> Several scientific publishers, including AAAS (publisher of *Science*) are sending letters to key House members urging Congress to forego a legislative solution and let NIH's public review process determine the outcome, out of concern that granting immediate free access to scientific journal articles could undermine the financial foundations of scientific publishing. It is unclear at this time whether the Senate will weigh in on this issue.

### **NIH Priority Areas**

**The House would provide the necessary funds to carry out NIH plans to expand its Roadmap for Medical Research.** Last year, NIH Director Elias Zerhouni introduced a Roadmap for Medical Research involving all the NIH institutes and centers and aimed at three areas of NIH research: improving clinical research (dubbed "Re-engineering the Clinical Research Enterprise"), encouraging interdisciplinary research ("Research Teams of the Future"), and providing new knowledge and research tools to assist other researchers ("New Pathways to Discovery"). Congress approved \$12 million in the Office of the Director

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<sup>1</sup> See <http://grants1.nih.gov/grants/guide/notice-files/NOT-OD-04-064.html> for more on this issue.

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(OD) to begin the Roadmap, but with contributions from the other ICs and other OD funds total Roadmap funding is \$128 million this year. The House and NIH would agree to nearly double Roadmap funding to \$237 million in FY 2005 with \$60 million coming from OD. The other ICs' contributions would be 0.63 percent of their FY 2005 budgets.

**Biodefense R&D continues to be a high priority in the NIH portfolio.** NIH identifies \$1.8 billion for biodefense R&D in FY 2005, up 4.5 percent from this year. As recently as two years ago, the NIH investment was only \$162 million. Most NIH biodefense R&D is funded by the National Institute of Allergy and Infectious Diseases (NIAID), which became the second-largest NIH institute in the aftermath of the fall 2001 anthrax attacks. NIAID would continue to award biodefense research grants in FY 2005, complete the establishment of 10 extramural Regional Centers of Excellence in Biodefense and Emerging Infectious Disease Research (RCE) with the designation of the final 2 centers, provide \$150 million for the second phase of extramural construction grants for biosafety level (BSL) 3 and 4 laboratories around the nation, and conduct animal and clinical trials of various candidate vaccines. In addition to funds in the NIH budget, there would be an additional \$47 million in new funds from the Office of the (HHS) Secretary for NIH to spend on developing medical countermeasures against nuclear or radiological terrorist attacks.

**HIV/AIDS research is another priority in the budget.** The NIH HIV/AIDS R&D portfolio would expand 2.8 percent in FY 2005 to reach \$2.9 billion. The majority (\$1.5 billion) of this research would be funded by NIAID, the lead institute for AIDS research. Included in the FY 2005 budget and affirmed by the House is \$100 million (the same as FY 2003 but down \$50 million from this year) 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.

#### **R&D in other HHS Agencies**

Although 95 percent of total R&D funding at the Department of Health and Human Services (HHS) comes from the NIH, there is also significant research funded by other HHS agencies (see Table 2). Funding at the **Centers for Disease Control and Prevention (CDC)** is primarily aimed at non-R&D activities such as public health and health promotion activities and more recently in biodefense for programs such as increasing state and local preparedness and improving security, but CDC also has a strong intramural research program at CDC laboratories. The House would provide \$532 million for CDC R&D activities, up 2.1 percent from FY 2004. CDC (and NIH) also receive research funds from the Office of the HHS Secretary (see Table 2) for a variety of biodefense-related research activities; these activities would jump 55 percent to \$189 million in the House plan.

#### **Outlook and Next Steps**

The House Labor-HHS bill is expected to clear the House this week (Sept. 9). The Senate Appropriations Committee has not even drafted a timetable for its version of the bill. Thus, the bill is almost certain to be included in a year-end omnibus appropriations bill, which could be delayed until well after October 1.

(This analysis is one of a series of AAAS R&D Funding Updates on the FY 2005 congressional appropriations process. The complete series of AAAS R&D Funding Updates, including continually updated analyses of R&D in FY 2005 appropriations, is available on the AAAS R&D Web Site (<http://www.aaas.org/spp/rd>) in the “FY 2005 R&D” or the “What’s New” sections.)

- July 28, 2004 (revised September 9)  
AAAS R&D Budget and Policy Program  
(202) 326-6607; -6600  
AAAS R&D Web site: <http://www.aaas.org/spp/rd>



Table 1. National Institutes of Health R&amp;D in FY 2005 House Appropriations

**Table 1. National Institutes of Health  
House Appropriations Committee Action on R&D in the FY 2005 Budget  
(budget authority in millions of dollars)**

	FY 2004 Estimate	FY 2005 Request	Action by House				
			FY 2005 House	Chg. from Request		Chg. from FY 2004	
				Amount	Percent	Amount	Percent
Cancer	4,736	4,870	<b>4,870</b>	0	0.0%	134	2.8%
Heart, Lung and Blood	2,878	2,964	<b>2,964</b>	0	0.0%	86	3.0%
Dental and Cranofacial Research	383	394	<b>394</b>	0	0.0%	11	2.9%
Diabetes, Digestive and Kidney <sup>1</sup>	1,821	1,876	<b>1,876</b>	0	0.0%	55	3.0%
Neurological Disorders and Stroke	1,501	1,546	<b>1,546</b>	0	0.0%	45	3.0%
Allergy and Infectious Diseases <sup>2</sup>	4,303	4,440	<b>4,440</b>	0	0.0%	137	3.2%
General Medical Sciences	1,905	1,960	<b>1,960</b>	0	0.0%	55	2.9%
Child Health & Human Development	1,242	1,281	<b>1,281</b>	0	0.0%	39	3.1%
Eye	653	672	<b>672</b>	0	0.0%	19	2.9%
Environmental Health Sciences <sup>3</sup>	709	731	<b>731</b>	0	0.0%	21	3.0%
Aging	1,025	1,056	<b>1,056</b>	0	0.0%	31	3.0%
Arthritis & Musculoskeletal & Skin	501	515	<b>515</b>	0	0.0%	14	2.9%
Deafness and Comm. Disorders	382	394	<b>394</b>	0	0.0%	12	3.0%
Mental Health	1,381	1,421	<b>1,421</b>	0	0.0%	39	2.8%
Drug Abuse	991	1,013	<b>1,013</b>	0	0.0%	22	2.2%
Alcoholism and Alcohol Abuse	428	442	<b>442</b>	0	0.0%	13	3.1%
Nursing Research	135	139	<b>139</b>	0	0.0%	4	3.3%
Research Resources	1,179	1,094	<b>1,094</b>	0	0.0%	-85	-7.2%
Human Genome Research	479	493	<b>493</b>	0	0.0%	14	2.9%
Fogarty International Center	65	67	<b>67</b>	0	0.0%	2	2.8%
National Library of Medicine	308	317	<b>317</b>	0	0.0%	8	2.7%
Office of the Director	327	360	<b>360</b>	0	0.0%	33	10.0%
Buildings and Facilities	99	100	<b>100</b>	0	0.0%	1	0.5%
Complementary & Alternative Med.	117	121	<b>121</b>	0	0.0%	4	3.6%
Biomed. Imaging/Bioengineering	289	298	<b>298</b>	0	0.0%	9	3.1%
Minority Health & Health Disparities	191	197	<b>197</b>	0	0.0%	5	2.8%
<b>Total NIH Budget</b>	<b>28,028</b>	<b>28,757</b>	<b>28,757</b>	<b>0</b>	<b>0.0%</b>	<b>729</b>	<b>2.6%</b>
<i>subtract:</i>							
- Estimated Research Training	749	764	<b>764</b>	0	0.0%	15	2.0%
- Other Non-R&D	59	71	<b>71</b>	0	0.0%	11	19.1%
<b>Total NIH R&amp;D</b>	<b>27,220</b>	<b>27,923</b>	<b>27,923</b>	<b>0</b>	<b>0.0%</b>	<b>703</b>	<b>2.6%</b>

AAAS estimates based on FY 2005 appropriations bills. Includes conduct of R&D and R&D facilities.

FY 2004 and FY 2005 request figures based on OMB R&D data and supplemental agency budget data.

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

<sup>1</sup> Includes \$150 million in FY 2004 and FY 2005 in mandatory funding for juvenile diabetes.

<sup>2</sup> Includes \$149 mil. in FY 2004 and \$100 mil. in FY 2005 for the Global Fund for HIV/AIDS, Tuberculosis and Malaria.

<sup>3</sup> Funding for all years includes Superfund-related transfers and appropriations from the VA-HUD bill.

**July 28, 2004 - House Appropriations Committee-approved funding levels.**

**These funding levels may be amended or rejected by the full House.**

Table 2. Department of Health and Human Services R&amp;D in FY 2005 House Appropriations

**Table 2. Department of Health and Human Services  
House Appropriations Committee Action on R&D in the FY 2005 Budget  
(budget authority in millions of dollars)**

	FY 2004 Estimate	FY 2005 Request	Action by House				
			<b>FY 2005 House</b>	Chg. from Request		Chg. from FY 2004	
				Amount	Percent	Amount	Percent
National Institutes of Health	27,220	27,923	<b>27,923</b>	0	0.0%	703	2.6%
Centers for Disease Control	521	530	<b>532</b>	2	0.4%	11	2.1%
Food and Drug Administration	135	161	<b>155</b>	-6	-3.4%	20	15.2%
Centers for Medicare & Medicaid Services	78	68	<b>68</b>	0	0.6%	-10	-12.3%
Health Resources and Services Admin.	22	57	<b>22</b>	-35	-61.4%	0	0.0%
Healthcare Research and Quality	327	327	<b>327</b>	0	0.0%	0	0.0%
Administration for Children & Families	41	98	<b>82</b>	-16	-16.3%	41	100.0%
Office of Aging	3	0	<b>0</b>	0	--	-3	-100.0%
Office of the Secretary	122	197	<b>189</b>	-8	-4.1%	67	54.9%
<b>Total HHS R&amp;D</b>	<b>28,469</b>	<b>29,361</b>	<b>29,299</b>	<b>-62</b>	<b>-0.2%</b>	<b>830</b>	<b>2.9%</b>

AAAS estimates based on FY 2005 appropriations bills. Includes conduct of R&D and R&D facilities.

FY 2004 and FY 2005 request figures based on OMB R&D data and supplemental agency budget data.

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**July 28, 2004 - House Appropriations Committee-approved funding levels.**

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