

Bush Administration Seeks \$3.4 Billion for Homeland Security R&D in FY 2004

- **The total federal investment in homeland security R&D would be \$3.4 billion in FY 2004** in the Bush Administration budget proposal, down \$325 million or 8.7 percent from the FY 2003 funding level.
- **The National Institutes of Health (NIH) would provide nearly half the total federal investment** with \$1.7 billion proposed in FY 2004.
- **The newly created Department of Homeland Security (DHS) would have an R&D budget of \$907 million** in FY 2004, a 36 percent boost over FY 2003.

This week, the Office of Management and Budget (OMB) released its annual report to Congress on combating terrorism. Included in the report is an inventory of federal spending on R&D related to the new and burgeoning category of homeland security. In response to the September 11 and anthrax terrorist attacks, there has been a dramatic increase in federal spending on homeland security R&D, especially in biodefense, but in FY 2004 homeland security R&D would decline in the Bush Administration's proposals.

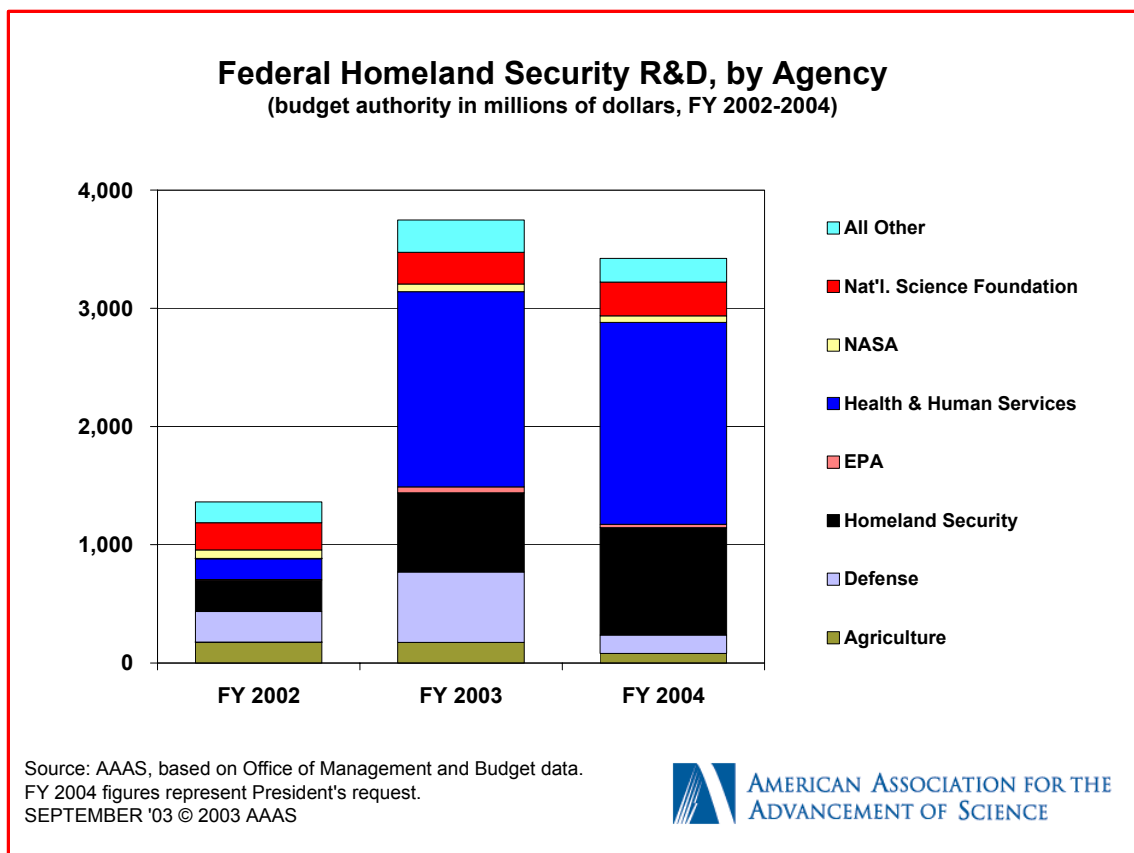


Figure 1. (click on image to view or download a full-size color PDF version of this chart)

The Bush Administration requested \$3.4 billion for homeland security R&D in the FY 2004 budget, down 8.7 percent or \$325 million from the FY 2003 funding level (see Table). As shown in Figure 1, homeland security R&D is funded by more than a dozen different federal departments, but the majority of funds would remain outside the new Department of Homeland Security (DHS). In fact, half of all federal R&D funding for homeland security would come from the Department of Health and Human Services (HHS; \$1.7 billion in FY 2004; see Figure 2).

As the Table and Figure 2 show, despite the creation of DHS, homeland security R&D is an interagency effort. The concept of homeland security itself is still new, and is an outgrowth of longstanding federal investments in counter-terrorism programs given new urgency and new direction after the fall 2001 terrorist attacks. Until FY 2001, counter-terrorism R&D was an effort of about \$500 million a year with the majority of support coming from DOD because it was assumed that U.S. military forces abroad were the most at risk from terrorist attacks. After the September 11 and anthrax attacks, this thinking changed dramatically and, as a consequence, homeland security as an effort to prevent, minimize, and recover from terrorist attacks within the United States became a new concept and mission for the federal government. Ultimately, this newly-articulated mission found expression in a new cabinet-level federal department and a dramatic expansion of federal spending.

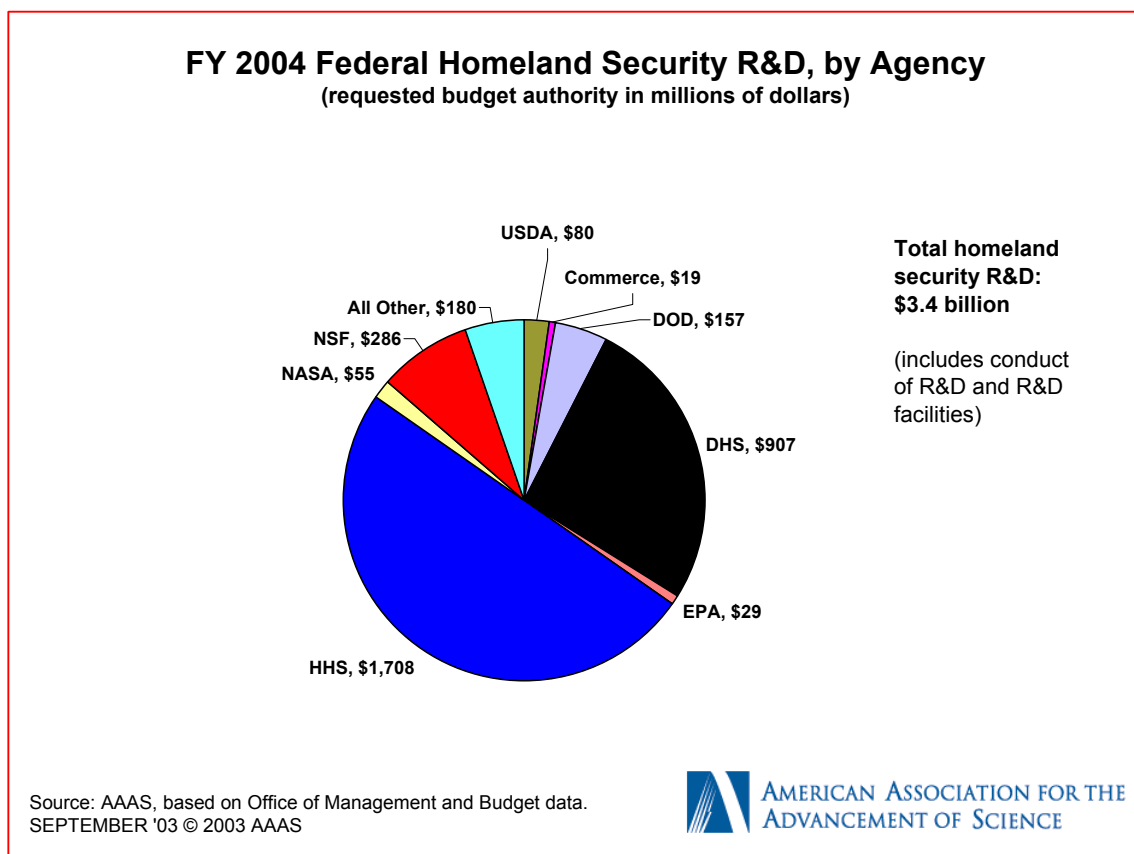


Figure 2. (click on image to view or download a full-size color PDF version of this chart)

Homeland security R&D spending increased dramatically last year. From \$1.4 billion in FY 2002, mostly new funding enacted in the immediate aftermath of the fall 2001 terrorist attacks, the R&D portfolio nearly tripled to \$3.7 billion in FY 2003, primarily because of a \$1.5 billion increase in National Institutes of Health (NIH) bioterrorism R&D portfolio (see Figure 1).

But in FY 2004, homeland security R&D would decline to \$3.4 billion, because one-time emergency projects in FY 2003 would be discontinued and because of tight budgetary constraints in the overall

discretionary budget. Although the new DHS would increase its funding dramatically, half the federal homeland security R&D would be funded by HHS, nearly entirely the NIH with some R&D from the Centers for Disease Control and Prevention (CDC; see Figure 2).

The **National Institutes of Health (NIH)** has supported **bioterrorism-related research** for years, but its research portfolio became a high priority after the fall 2001 postal anthrax attacks. In the FY 2003 budget, Congress rushed to provide funds to ramp up NIH's efforts to a level of \$1.7 billion. In the FY 2004 request, NIH would continue to be the lead research agency in the federal effort to combat bioterrorism with \$1.7 billion, up 3.5 percent from FY 2003. Most of these funds would go to the National Institute of Allergy and Infectious Diseases (NIAID). In FY 2003, roughly \$1 billion goes to research activities aimed at developing biomedical tools to detect, prevent, and treat infection by biological agents, and \$700 million goes to R&D facilities funding for the construction of intramural and extramural biosafety laboratories. In FY 2004, the entire \$1.7 billion would go to biodefense research, both in NIH's own laboratories and through extramural research grants. The remaining HHS R&D funds in the Table come from the Centers for Disease Control and Prevention (CDC), which funds bioterrorism R&D at its own laboratories.

The **Department of Homeland Security (DHS)** would see its R&D budget climb by 35.5 percent to \$907 million in FY 2004. One reason for this enormous increase in funding is that unlike the other departments, the brand-new DHS is building many of its capabilities from scratch. Although DHS became the new home of existing Department of Defense, Energy, and Agriculture programs this spring, DHS will have to create new R&D capabilities in several areas to address critical knowledge gaps in homeland security. DHS is also the new home of the Transportation Security Administration (TSA), which funds R&D related to aviation security.

DHS plans to create several new R&D organizations in FY 2004, including **the Homeland Security Advanced Research Projects Agency (HSARPA)**, modeled on the existing Defense Advanced Research Projects Agency (DARPA) in the Department of Defense (DOD). HSARPA will award extramural grants for basic and applied research to promote revolutionary changes in homeland security technologies; will develop and test potential homeland security technologies; and will accelerate or prototype the development of homeland security technologies to get them ready for deployment. HSARPA has already hired employees and has begun to establish its processes for awarding R&D grants. In addition to HSARPA, DHS will create several other organizations and advisory structures over the next few months to a year in order to carry out its S&T tasks, including university programs, fellowship programs, standards-setting programs, and support for rapid prototyping of homeland security products. (For more information on the DHS R&D portfolio, see the September 24 DHS R&D Funding Update).

The **Department of Defense (DOD)** would slash its homeland security R&D funding by 74 percent down to \$157 million in FY 2004. Much of the remaining funding would come from the Defense Advanced Research Projects Agency (DARPA), which focuses primarily on military applications in areas such as biological warfare defense, but its research could also benefit civilian preparedness and response. The FY 2003 appropriation contains homeland security-related R&D work, but beginning in FY 2004 most of this work will be funded by DHS, and DOD will focus on its traditional mission of national defense and preventing terrorism overseas.

The **U.S. Department of Agriculture (USDA)** has only a small dedicated homeland security R&D effort, but counts a portion of its R&D activities in the Agricultural Research Service (ARS) as related to homeland security, including biocontainment facilities and upgrades to its laboratory network against terrorist attacks. These security upgrades account for most of the \$173 million R&D investment in FY 2003; because most of these funds were emergency appropriations for construction, the USDA total would fall down to \$80 million in FY 2004 for research only.

Another agency with a sharp cut in homeland security R&D funding in FY 2004 would be the **Environmental Protection Agency (EPA)**. From a small start in FY 2002 of \$4 million, EPA invested \$50 million in FY 2003 for building decontamination research provided as a one-time emergency support

to EPA's work in decontaminating congressional office buildings of anthrax. In FY 2004, EPA homeland security R&D would decline to \$29 million.

Among other agencies, the **National Institute of Standards and Technology (NIST)** in Commerce funds R&D on cryptography and computer security and will provide scientific and technical support to DHS in these areas. The **National Science Foundation (NSF)** funds research to combat bioterrorism in the areas of infectious diseases and microbial genome sequencing; these programs would increase to \$286 million in FY 2004.

As the Table shows, homeland security R&D is part of a broader, \$41 billion combined federal effort in homeland security requested for FY 2004, down 3.6 percent from FY 2003 spending. The majority of this \$41 billion effort would be in the DHS, which will have a budget of approximately \$29 billion in FY 2004.

(These data reflect emergency supplementals for FY 2002 and FY 2003 enacted in the aftermath of the fall 2001 terrorist attacks, but do not reflect FY 2004 congressional action on the budget. These data differ substantially from previous AAAS reports on counter-terrorism R&D because this analysis covers the related but different category of homeland security spending.)

This analysis will be updated as the FY 2004 appropriations process continues, to provide AAAS estimates of homeland security R&D in the final FY 2004 appropriations bills.

(This analysis is an issue brief highlighting recently released OMB budget data detailing the federal investment in homeland security R&D. The data in this analysis cover FY 2002 actual, FY 2003 estimated, and FY 2004 requested spending. The complete series of AAAS R&D Funding Updates, including continually updated analyses of R&D by agency in FY 2004 appropriations, is available on the AAAS R&D Web Site (<http://www.aaas.org/spp/rd>) in the "FY 2004 R&D" or the "What's New" sections.)

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Table. Federal Homeland Security R&D in the FY 2004 Budget

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(budget authority in millions of dollars)

	FY 2002	FY 2003	FY 2004	Change FY 03-04	
	Actual	Estimate	Request	Amount	Percent
Agriculture	175	173	80	-93	-53.8%
Commerce	19	16	19	3	18.3%
Department of Defense	259	597	157	-440	-73.7%
Department of Energy	0	19	0	-19	-100.0%
Department of Homeland Security	266	669	907	238	35.5%
Environmental Protection Agency	4	50	29	-21	-41.6%
Health and Human Services	177	1,651	1,708	57	3.5%
National Aeronautics and Space Adm.	73	65	55	-10	-15.4%
National Science Foundation	229	269	286	17	6.4%
Transportation	55	58	4	-54	-93.2%
All Other	104	180	177	-4	-2.1%
Total Homeland Security R&D	1,361	3,747	3,422	-325	-8.7%
<i>(Total Homeland Security Spending)</i>	<i>32,881</i>	<i>42,909</i>	<i>41,343</i>	<i>-1,566</i>	<i>-3.6%</i>

AAAS, based on Office of Management and Budget data from OMB's *2003 Report to Congress on Combating Terrorism*, September 2003. Figures adjusted from OMB data by AAAS to include conduct of R&D and R&D facilities, and revised estimates of DHS R&D. Figures do not include non-R&D homeland security activities, nor do they include DOD R&D investments in overseas combating terrorism. Funding for all years includes regular appropriations and emergency supplemental appropriations.

AAAS - October 1, 2003