



**CENTER FOR ARMS CONTROL AND
NON-PROLIFERATION
BIOLOGICAL AND CHEMICAL WEAPONS CONTROL PROGRAM**

322 4th Street, NE Washington, DC 20002

**Federal Funding for Biological Weapons Prevention and Defense,
Fiscal Years 2001 to 2007**

Introduction

In the years since the 2001 terrorist attacks on the United States, the U.S. government has spent or allocated over \$36 billion among 11 federal departments and agencies to address the threat of biological weapons. For Fiscal Year 2007 (FY2007), the Bush Administration is proposing an additional \$8 billion in bioweapons-related spending, approximately \$120 million (or 1.5%) more than the amount that Congress appropriated for FY2006. This funding has and continues to focus primarily on research, development, and acquisition of medical countermeasures and protective equipment, enhancing medical surveillance and environmental detection of biological weapons agents, and improving state, local, and hospital preparedness. Only 2% of all federal bioweapons-related funding has been devoted to efforts to prevent the development, acquisition, and use of biological weapons by states and terrorists and other non-state actors. Stronger prevention efforts, including a commitment to broad cooperative international action, are essential for improving our nation's security.

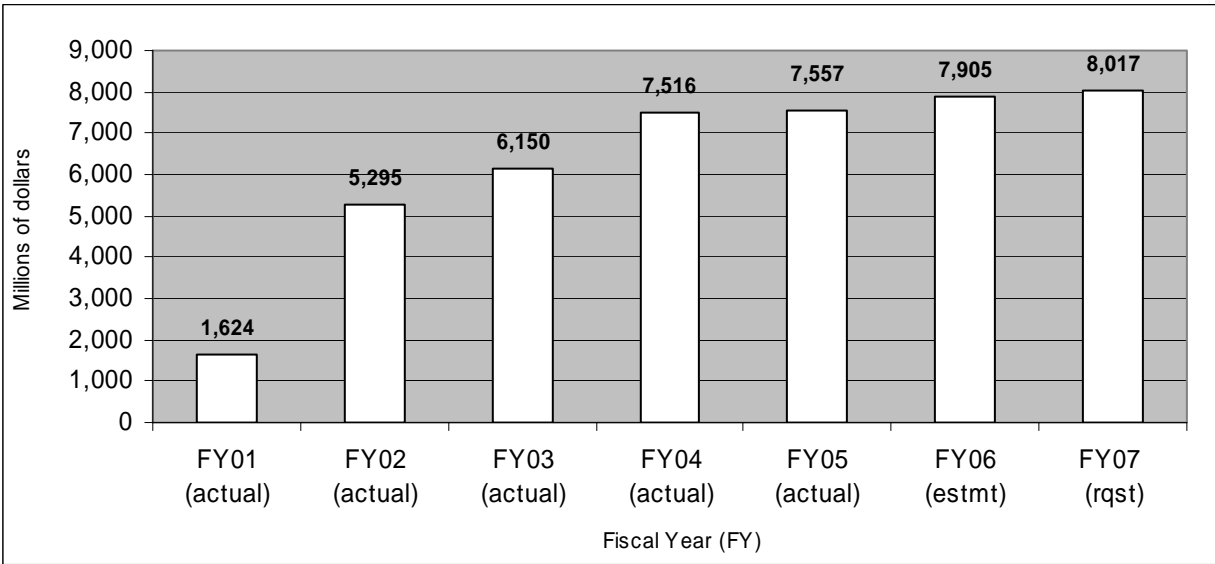
Annual bioweapons-related programs and funding for the following departments and agencies from FY2001 to FY2007 are summarized in Table 1: the Department of Agriculture (USDA), the Department of Commerce, the Department of Defense (DOD), the Department of Energy (DOE), the Department of Health and Human Services (DHHS), the Department of Homeland Security (DHS), the Department of State, the Department of Veterans Affairs (VA), the Environmental Protection Agency (EPA), the National Science Foundation (NSF), and the United States Postal Service (USPS). As illustrated in Figure 1, annual bioweapons-related spending grew rapidly from FY2001 to FY2004. Funding has since grown at slightly less than the rate of inflation.

Table 1. Federal Funding for Bioweapons Prevention and Defense, by Agency, for FY2001-FY2007
(in \$ millions)

Department or Agency	FY01 (actual)	FY02 (actual)	FY03 (actual)	FY04 (actual)	FY05 (actual)	FY06 (estmt)	FY07 (rqst)	FY01 thru FY07
Agriculture (USDA)	7 ^a	42 ^a	204	111	298	253	322	1,237
Commerce (DOC) ^a	3	4	4	7	6	6	6	36
Defense (DOD)	1,030	1,313	1,528	1,480	1,665	1,952	1,691	10,659
Energy (DOE) ^a	46	94	7	6	7	13	6	179
Health and Human Services (DHHS)	324	2,980	4,035	3,703	4,147	4,088	4,259	23,536
Homeland Security (DHS)			119 ^a	1,960	720	1,355	1,434	5,588
State (DOS)	39	71	67	67	67	71	78	460
Veterans Affairs (VA)	n/a	n/a	27	23	9	10	9	78
Environmental Protection Agency (EPA) ^a	n/a	187	133	131	107	129	183	870
National Science Foundation (NSF)	0	17	26	27	27	27	28	152
U.S. Postal Service (USPS)	175	587	0	0	503	0	0	1,265
Total	1,624	5,295	6,150	7,515	7,556	7,904	8,016	44,060

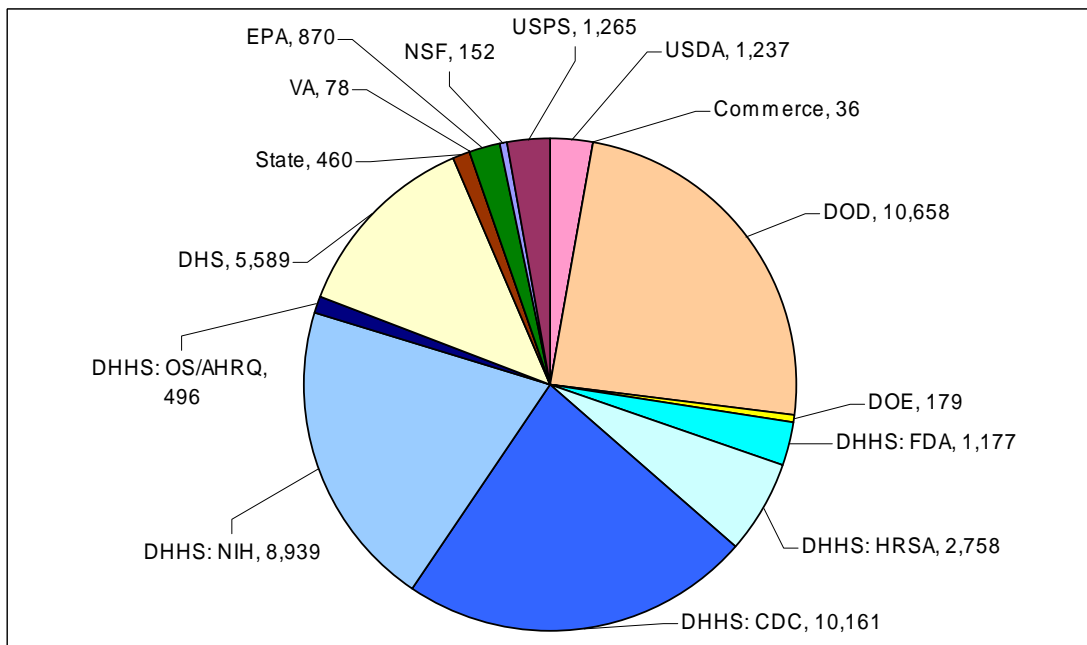
^a These numbers are estimates. Please refer to the more detailed explanations found below in the sections on each department and agency.

Figure 1. Total Annual Federal Funding for Bioweapons Prevention and Defense, FY2001 through FY2007 (in \$ millions)



Cumulative total funding by agency for the entire FY2001 to FY2007 period (\$44.06 billion if the FY2007 request is funded in full) is illustrated in Figure 2, with DHHS funding broken down into its constituent agencies and offices (Food and Drug Administration (FDA), Health Resources and Services Administration (HRSA), the Centers for Disease Control (CDC), National Institutes of Health (NIH), and the Office of the Secretary (OS) plus the Agency for Healthcare Research and Quality (AHRQ)). Over 90% of all bioweapons-related funding goes to three lead departments: Health and Human Services, Defense, and Homeland Security.

Figure 2. Total Federal Funding for Bioweapons Prevention and Defense since FY2001, by Agency (in \$ millions)



In contrast to other preparedness efforts, biodefense research, development, testing, and evaluation (RDT&E) can be dual-use in nature: scientific knowledge, methods, and materials that can be used to protect against biological weapons can often also be used to develop biological weapons. The dual-use problem has become a significant national and international policy concern. In the United States, the National Science Advisory Board for Biosecurity (NSABB) has been established under the auspices of the NIH, with *ex officio* representation from 18 Federal departments, agencies, and offices, in order to “provide advice, guidance, and leadership regarding biosecurity oversight of dual use research” to the Secretary of DHHS, the Director of the NIH, and the “heads of all federal departments and agencies that conduct or support life science research.”¹

Funding for biodefense RDT&E from FY2001 through FY2007 will reach \$18.1 billion, or 41% of all bioweapons-related funding since FY2001 (Table 2). Of this, approximately \$1.7 billion has thus far been spent, allocated, or requested for improving existing or building at least 20 new high containment research facilities around the country, including 7 new biosafety level 4 (BSL-4) facilities for conducting work on the most dangerous pathogens, such as the ebola viruses and other hemorrhagic fever viruses. The Departments of Defense and Homeland Security are expected to request up to another \$1.4 billion over the next five years for two of these BSL-4 facilities.

Table 2. Research, Development, Testing and Evaluation Funding for Biodefense (in \$ millions)

Department or Agency	FY01 actual	FY02 actual	FY03 actual	FY04 actual	FY05 actual	FY06 estmt	FY07 rqst	FY01 thru FY07
Facilities								
USDA	7	30	143	0	121	58	0	359
DOD						21	29	50
DHHS	0	92	743	0	149	30	25	1039
DHS	0	0	30	108	68	23	0	229
<i>Facilities, Subtotal</i>	<i>7</i>	<i>122</i>	<i>916</i>	<i>108</i>	<i>338</i>	<i>132</i>	<i>54</i>	<i>1677</i>
Programs								
USDA	0	9	12	20	29	34	72	176
DOD: Army		17	19	22	19	16	15	108
DOD: DARPA	146	172	158	142	155	148	112	1034
DOD: CDBP	405	596	639	701	714	1048	958	5061
<i>DOD, Subtotal</i>	<i>551</i>	<i>785</i>	<i>816</i>	<i>865</i>	<i>888</i>	<i>1212</i>	<i>1085</i>	<i>6202</i>
DHHS: FDA	6	46	53	53	57	57	57	329
DHHS: CDC	18	18	18	n/a ^a	n/a	n/a	3	57
DHHS: NIH	53	198	810	1821	1593	1655	1770	7900
<i>DHHS, Subtotal</i>	<i>77</i>	<i>262</i>	<i>881</i>	<i>1874</i>	<i>1650</i>	<i>1712</i>	<i>1830</i>	<i>8286</i>
DHS: S&T ^b			89	306	223	226	202	1046
DOE	40	85	n/a	n/a	n/a	6	n/a	131
VA	n/a	n/a	27	23	9	10	9	78
EPA: S&T ^c	0	7	67	66	54	65	92	351
NSF	0	17	26	27	27	27	28	152
<i>Programs, Subtotal</i>	<i>668</i>	<i>1165</i>	<i>1918</i>	<i>3181</i>	<i>2880</i>	<i>3292</i>	<i>3318</i>	<i>16422</i>
Research, Total	675	1287	2834	3289	3218	3424	3372	18099

^a n/a: no information available.

^b Based on estimate that 60% of Biological Countermeasures portfolio funding in FY2004-FY2007 is devoted to RDT&E.

^c Estimate based on comparison of White House and EPA budget documents, suggesting that approximately 50% of EPA homeland security funding is for programs clearly related to biodefense R&D in FY2006 and FY2007.

¹ biosecurityboard.gov

In contrast, federal funding for efforts to prevent the development, acquisition, and use of biological weapons is expected to reach approximately \$845 million in FY2007 (Table 3). This is less than 5% of the total funding for biodefense RDT&E during the same time period. Approximately 90% of prevention funding goes to DOD, DOE, and the State Department for Cooperative Threat Reduction efforts, primarily in states of the former Soviet Union. Other prevention-related funding is provided to the Department of Commerce for Export Controls on materials and equipment that could be used to develop biological weapons, and to the Select Agents programs at the CDC and USDA which regulate the possession, use, and transfer of potential biological weapons pathogens and toxins. The NSABB also receives roughly \$1 million per year for its activities.

Table 3. Prevention Funding for Biodefense (in \$ millions)

Department or Agency and Programs	FY01 actual	FY02 actual	FY03 actual	FY04 actual	FY05 actual	FY06 estmt	FY07 rqst	FY01 thru FY07
USDA: APHIS: Select Agents - Plants and Animals					3	3	5	11
DOD: CTR: BWPP	12	17	55	68	69	61	68	350
DHHS: CDC: Select Agents Program ^a	5	5	5	5	5	5	5	35
DHHS: NIH: NSABB				0.5	1	1	1	4
State: Nonproliferation Programs	35	67	52	50	50	52	56	363
Commerce: Export Controls ^b	3	4	4	7	6	6	6	35
DOE: Export Control and GIPP ^b	6	9	6	6	7	7	6	47
Prevention, Total	61	102	122	136	140	134	146	845

^a Unlike USDA, HHS and CDC do not explicitly provide a number for the amount of money that the Select Agents Program receives. Based on USDA numbers and the FY02 numbers (from GAO-03-315R "CDC Select Agent Program" from 11/22/02), we estimate that CDC's Select Agent Program received about \$5 million for each fiscal year.

^b Please refer to a more detailed analysis and explanation of the Department of Commerce's and the Department of Energy's funding numbers in the section under "Other Government Agencies."

After a brief discussion of methodology, a detailed analysis of biodefense-related funding is presented for each government agency.

Methodology

The information provided in this analysis was compiled primarily from the budget summaries (or "Budgets-in-Brief," as some of them are known) submitted to Congress by each department or agency for each fiscal year. These publications offer a solid and detailed examination of programs and activities with accompanying explanations and funding numbers. They typically provide information on actual spending for the previous fiscal year, spending estimates for the current fiscal year, and budget requests for the upcoming fiscal year. Thus, unless otherwise noted, all FY2001, FY2002, FY2003, FY2004, and FY2005

numbers are “actual” – the amount of money that the respective department or agency spent on that specific activity or program for that fiscal year.

Not all numbers, however, are readily available. Particularly for the Department of Homeland Security and the Environmental Protection Agency, but also for other programs within various departments and agencies, information must be gathered from a number of different sources. These include, but are not limited to, Congressional Justifications, Appropriations bills (and accompanying House, Senate, and Conference Reports), Congressional Research Service (CRS) Reports, Government Accountability Office (GAO) Reports, and department/agency websites. Even with so many varied sources, funding numbers do not always match with one another, and many programs remain unclear, ambiguous, confusing, and even dually-named at times. An added challenge to understanding and evaluating funding is the transfer or sharing of programs and activities between two or more different departments and agencies. In such cases, it is sometimes difficult to determine which agency actually receives the money for a given program.

It is important to note that some of the activities and programs included in the following charts may not be devoted entirely to biological weapons-related activities. Some programs, which are footnoted, may also involve aspects related to chemical, radiological, or nuclear research or countermeasures. Funding for such a program is typically included in its entirety in this analysis if the program relates primarily to biodefense or if it is not possible to distinguish between or separate out the other chemical, nuclear, or radiological elements. In some cases, best estimates of bioweapons-related spending are provided based on the publicly available information. Similarly, funding for some programs which address emergency preparedness and response more generally (“all-hazards” type activities) is not included, even though some of these programs should improve our nation’s ability to respond to a biological weapons attack. We welcome additional information that will help us improve this analysis.

This analysis focuses on funding that revolves around preventing, preparing for, and mitigating the threat of biological weapons. In that sense, funding for pandemic and avian influenza is not included in the tables, although efforts to prepare for pandemic disease outbreaks will surely contribute to U.S. biodefense. Since FY2004, DHHS has received approximately \$3.5 billion in pandemic influenza funding, an additional \$2.6 billion is requested for FY2007.² USDA is requesting \$82 million for avian influenza in FY2007.³

Note that in the tables, funding totals and subtotals may not always be identical to the sum of the funding levels listed for the individual components, due to rounding errors or estimation discrepancies.

² \$6.7 billion in emergency funding was requested for DHHS in FY2006 for a 3-year strategic plan to prepare for pandemic influenza. Of this, \$3.3 billion was appropriated for FY2006; for FY07, there is an allowance of \$2.3 billion for the next phase of the plan; and it is estimated that \$1.1 billion will be available for FY2008. Included in the \$2.3 billion for FY07 is \$352 million for specific activities within the HHS agencies and \$79 million allocated to avian flu within the Public Health and Social Services Emergency Fund (PHSSEF).

³ From USDA’s FY2007 Budget Summary.

Department of Agriculture (USDA)

The Department of Agriculture's FY2007 budget request for bioweapons-related funding is \$322 million, approximately 27% higher than the FY2006 estimated spending. If funding related to the Ames, Iowa BSL-3 facility is not included in the FY2006 total, the FY2007 request is 60% higher than FY2006 estimates. The increases come mainly from larger requests in Food Defense Research (plus \$14 million), Agriculture Defense Research (plus \$24 million), and Enhanced Surveillance within the Animal and Plant Health Inspection Service (APHIS) (plus \$43 million). The Department requests \$82 million in FY2007 for avian influenza.

Table 4. Department of Agriculture (USDA) budget breakdown (in \$ millions) ^a

Program or Activity	FY01 actual	FY02 actual	FY03 actual	FY04 actual	FY05 actual	FY06 estmt	FY07 rqst
Food and Agriculture Defense Initiative							
Complete Ames, Iowa BSL-3 Facility (ARS)			143	0	121	58	
Food Defense:							
Surveillance and Monitoring (FSIS)			1	1	3	3	3
Food Emergency Response Network (FERN) (FSIS)					3	3	19
FSIS Enhanced Inspections				2	2	2	2
Laboratory Upgrades and Physical Security (FSIS)			1	3	3	6	6
Education/Training (FSIS)			2	2	3	4	4
Other FSIS Activities			4	4	5	5	5
Research (ARS)			2	3	8	9	23
<i>Subtotal, Food Defense</i>		3	11	16	27	32	62
Agriculture Defense:							
Research (ARS)		9	10	17	21	26 ^b	49
National Plant Disease Recovery System (ARS)					2	2	6
Regional Diagnostic Network (CSREES)				8	9	10	12
Higher Education Agrosecurity Program (CSREES)							5
Pest Detection/Animal Health Monitoring: (APHIS)							
Enhanced Surveillance				38	80	87	130
Biosurveillance			4	0	2	2	3
Plant Safeguarding Activities				17	17	17	23
Select Agents – Plants and Animals					3	3	5
National Veterinary Stockpile				1	3	3	8
Other APHIS			37	14	13	14	19
<i>Subtotal, Agriculture Defense</i>		9	50	95	150	163	260

<i>Total, Food and Agriculture Defense Initiative</i>		12	204	111	298	253	322
Plum Island Animal Disease Center (PIADC) ^c	7	30					
Total, USDA	7	42	204	111	298	253	322

^a Sources: USDA FY2003, FY2004, FY2005, FY2006, and FY2007 Budget Summaries and Annual Performance Plans. Minimal estimates for FY2001 and FY2002 are provided, based on the limited available information. Abbreviations: ARS – Agricultural Research Service; CSREES – Cooperative State Research, Education and Extension Service; FSIS – Food Safety and Inspection Service

^b Includes \$500,000 for research at the Foreign Disease Weed Science Laboratory in Frederick, MD.

^c Sources: USDA FY2001 Conference Report (H. Rept. 106-948); http://www.whitehouse.gov/omb/dhs/MajorComp_Total.pdf, accessed June 20, 2006. All biodefense activities for Plum Island were transferred to DHS in FY2003.

Department of Defense (DOD)

The Department of Defense FY2007 budget request for bioweapons-related funding is \$1.691 billion, 22% lower than the FY2006 estimated spending. The majority of the decrease is found in RDT&E (\$120 million) and Procurement (\$149 million). However, funding for the primary RDT&E effort, the Chemical and Biological Defense Program (CBDP), is projected to return to FY2006 levels in FY2008 and beyond.⁴ In FY2006, the Department started to “reallocate funding within CBDP to invest more than \$1.5 billion over the next five years to develop broad-spectrum medical countermeasures against advanced bio-terror threats, including genetically engineered intracellular bacterial pathogens and hemorrhagic fevers.”⁵ In addition, over the next eight years, approximately \$1 billion will be spent towards the construction of a new research facility at the U.S. Army Medical Research Institute for Infectious Diseases (USAMRIID) at Fort Detrick, MD.⁶ The FY2007 request for prevention efforts within the Cooperative Threat Reduction (CTR) program is about \$8 million more than FY2006 estimated spending. Projected funding for this program from FY2008 to FY2011 shows moderate continued increases for this program.

Table 5. Department of Defense (DoD) budget breakdown (in \$ millions)^{a,b}

Program or Activity	FY01 actual	FY02 actual	FY03 actual	FY04 actual	FY05 actual	FY06 estmt	FY07 rqst
Research, Development, Test, and Evaluation							
Department of the Army							
Medical Materiel/Medical Biological Defense Equipment	n/a	17	19	22	19	16	15
Defense-Wide							
Basic Research: Chemical and Biological Defense Program (CBDP)	38	45	53	46	52	94	99
Applied Research:							
CBDP	94	143	170	151	172	247	280
Defense Advanced Research Projects Agency (DARPA): Biological Warfare Defense	146	172	158	142	155	148	112
Advanced Technology Development: CBDP	58 ^c	82	106	148	175	234	207
Advanced Component Development and Prototypes: CBDP	82 ^c	124	92	128	125	122	73
System Development and Demonstration: CBDP	99	158	169	172	138	260	212
RDT&E Management Support: CBDP	34	44	49	56	50	81	80
Operational Systems Development: CBDP					2	10	7

⁴ From Department of Defense FY2007 President's Budget, Research, Development, Test, and Evaluation, Defense-Wide: Volume 4, Chemical and Biological Defense Program (CBDP), February 2006.

⁵ From Quadrennial Defense Review Report, 2006.

⁶ From http://www.dcmilitary.com/army/standard/12_13/features/, accessed June 20, 2006.

Military Construction							
Tricare Management Activity: New USAMRIID Facility at Fort Detrick, MD						21	29 ^d
<i>Subtotal, RDT&E</i>	<i>552</i>	<i>784</i>	<i>815</i>	<i>867</i>	<i>889</i>	<i>1,235</i>	<i>1,115</i>
Procurement							
Defense-Wide: Chemical and Biological Defense							
Installation Force Protection					105	202	86
Individual Protection	117	147	343	106	148	96	77
Decontamination	7	16	26	21	15	3	17
Joint Biological Defense Program	142	208	130	71	101	62	47
Collective Protection	40	48	56	56	45	31	44
Contamination Avoidance	164	95	102	290	295	261	236
<i>Subtotal, Procurement</i>	<i>470</i>	<i>512</i>	<i>658</i>	<i>545</i>	<i>708</i>	<i>655</i>	<i>506</i>
Cooperative Threat Reduction (CTR) Program ^e							
Biological Weapons Proliferation Prevention (BWPP) Program							
Biological Weapons Infrastructure Elimination (BWIE)			10	17	0	2	2
Cooperative Biological Research (CBR)			10	16	10	5	21
Biosecurity and Biosafety (BS&S)			9	15	3	0	46 (BS&S/TADR combined)
Threat Assessment and Disease Response (TADR)			26	20	55	55	
<i>Total, Cooperative Threat Reduction Program</i>	<i>12</i>	<i>17</i>	<i>55</i>	<i>68</i>	<i>68</i>	<i>62</i>	<i>69</i>
Total, Department of Defense	1,033	1,313	1,528	1,480	1,665	1,952	1,691

^a Sources: DOD Budget Summaries for FY2003, FY2004, FY2005, FY2006, and FY2007 unless otherwise noted.

^b Funding for DARPA's "Materials and Biological Technology," which may include biodefense- and non-biodefense-related money, includes: \$0 before FY2005; \$252m for FY2005; \$289m for the FY2006 estimate; and \$297m for FY2007's budget request.

^c In FY2001, Advanced Technology Development was called Demonstration and Validation; System Development and Demonstration was called Engineering and Manufacturing Development.

^d Appropriation request. DOD has also requested authorization of \$550 million in "Stage 1" funding for the new USAMRIID facility (from DOD Program Budget Decision (PBD) 753)

^e Sources: for FY2001 and FY2002, <http://www.nti.org/db/nisprofs/russia/forasst/ctr/funding.htm>. For FY2003, the Cooperative Threat Reduction Annual Report to Congress, Fiscal Year 2004. For FY2004 and FY2005, the Cooperative Threat Reduction Annual Report to Congress, Fiscal Year 2006. For FY2006 and FY2007, the Cooperative Threat Reduction Annual Report to Congress, Fiscal Year 2007 (3/15/06) and RANSAC's "Preliminary Analysis of the U.S. Department of Defense's Fiscal Year 2007 Cooperative Threat Reduction Budget Request" by William Hoehn (5/2/06), both available on the RANSAC website. The CTR Annual Report for FY2007 also provides projected spending for BWPP for the FY2008-FY2011 period: BWIE, \$0; CBR, \$59m; and BS&S and TADR, \$312m.

Department of Health and Human Services (DHHS)

The Department of Health and Human Services FY2007 budget request for bioweapons-related funding is \$4.259 billion, approximately 4% higher than the estimated spending for FY2006. Research at NIH continues to account for the largest portion of DHHS funding: nearly \$1.8 billion in the FY2007 request, of which \$160 million will go towards the Advanced Development fund for biodefense countermeasures that are priority Project BioShield acquisition targets. CDC requests a 12% increase for the Strategic National Stockpile (SNS) in FY2007, and FDA requests a similar increase for food safety and defense. Funding for the CDC portion of the biosurveillance initiative is reduced by over 20%. Most of the other programs, with only minor increases and decreases, remain at similar levels as those in FY2006. DHHS requests approximately \$2.65 billion for pandemic influenza planning in FY2007.

Table 6. Department of Health and Human Services (DHHS) budget breakdown
(in \$ millions)^a

Program or Activity	FY01 actual	FY02 actual	FY03 actual	FY04 actual	FY05 actual	FY06 estmt	FY07 rqst
Food and Drug Administration (FDA)							
Food Safety and Defense ^b	1	98	97	116	150	158	178
Medical Product Countermeasures	6	46	53	53	57	57	57
Physical Security	2	13	7	7	7	7	7
<i>Subtotal, FDA</i>	<i>9</i>	<i>157</i>	<i>157</i>	<i>176</i>	<i>214</i>	<i>222</i>	<i>242</i>
Health Resources and Services Administration (HRSA)							
Bioterrorism Hospital Preparedness		135	514	515	487	474	474
Bioterrorism Training and Curriculum Development			28	28	28	21	12
Smallpox Compensation			42				
<i>Subtotal, HRSA</i>		<i>135</i>	<i>584</i>	<i>543</i>	<i>515</i>	<i>495</i>	<i>486</i>
Centers for Disease Control and Prevention (CDC)							
CDC Physical Security and Facilities	3	46	20				
Upgrading State and Local Capacity	67	940	939	918	918	824	824
Biosurveillance Initiative				22	79	133	102
Upgrading CDC Capacity ^c	22	142	157	169	158	150	136
Anthrax Research ^c	18	18	18			0	0
Strategic National Stockpile	51	645	398	0 ^d	467	525 ^e	593 ^e
Botulinum Toxin Research							3
Supplemental appropriations (smallpox)		512	100				
Independent Studies	11	2	2				
Other (Planning for Preparedness and Response; Deterrence)	10	19					
<i>Subtotal, CDC</i>	<i>182</i>	<i>2,324</i>	<i>1,634</i>	<i>1,109</i>	<i>1,622</i>	<i>1,632</i>	<i>1,658</i>

National Institutes of Health
(NIH)

Research	53	198	687	1,629	1,548	1,655	1,770
Advanced development fund (non-add)						(50)	(160)
Extramural laboratory construction			373	0	149	30	25
Intramural physical security and facilities		92	370				
rPA Anthrax Vaccine Intermediate Scaleup ^f			123	117			
MVA Smallpox Vaccine Intermediate Scaleup ^f				75	45		
NSABB (non-add) ^g				(0.5)	(1)	(1)	(1)
Subtotal, NIH	53	290	1,553	1,821	1,742	1,685	1,795

Office of the Secretary (OS)

Office of Public Health and Emergency Preparedness ^h	63	49	42	41	41	41	43
Metropolitan Medical Response System (MMRS) ⁱ	(17) ^j	22	50				
Healthcare Provider Credentialing							7
Medical Reserve Corps		3	10	10	10	10	22
Revitalization/Transformation of Commissioned Corps				3	3	3	13
Subtotal, OS	80	74	102	54	54	54	78

Agency for Healthcare Research and Quality
(AHRQ)

Total, DHHS	324	2,980	4,035	3,703	4,147	4,088	4,259
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^a Sources: DHHS Budget-in-Briefs for FY2003, FY2004, FY2005, FY2006, and FY2007 unless otherwise noted.

^b Includes \$13m for enhancing laboratory surge capacity and national coverage of the Food Emergency Response Network (FERN) in FY2007, \$3m for FY2006 and \$5m for FY2007 in biosurveillance, and \$1m in FY2007 for research on food vulnerability, in conjunction with the USDA. Other funded activities are not specified.

^c In FY2004, "Upgrading CDC Capacity" (including regulation of Select Agents) and "Anthrax Research" combined into one category. Funding was directed to both activities in FY2004 and FY2005, but no money has been allocated for research on older anthrax vaccines since FY2006.

^d The SNS was transferred to DHS during FY2003 and was transferred back to DHHS at the beginning of FY2005. Prior to FY2003, SNS was previously known as the National Pharmaceutical Stockpile.

^e Includes \$50m for the Federal Mass Casualty Initiative to purchase, maintain, and operate portable treatment units.

^f rPA Anthrax Vaccine Intermediate Scaleup was a 2-year plan by NIAID to "move the anthrax recombinant protective antigen (rPA) vaccine from late-stage development to production for research purposes." A smaller plan was also initiated for intermediate-scale advanced development of the modified vaccinia ankara (MVA) vaccine for smallpox. (<http://www.niaid.nih.gov/ncn/budget/anthraxvac.htm>) References to these initiatives disappear after the FY2005 DHHS Budget-in-Brief. Therefore, FY2004 and FY2005 funding figures are estimates.

^g From the NSABB Charter. The estimated annual cost for NSABB is approximately \$1 million per year to support its activities. NSABB operated for one-half of FY2004.

^h Formed in FY2002 from the merger of the Office of Emergency Preparedness and the Office of Public Health Preparedness. These figures include \$30m for "advanced research" in FY2001, \$5m in FY2002, and \$5m in FY2003. The two offices combined included \$63m in funding for FY2001. Information on research funding in subsequent years is not available.

ⁱ Transferred to DHS in FY2004.

^j Non-additional, included within the Office of Emergency Preparedness budget in FY2001.



Department of Homeland Security (DHS)

The Department of Homeland Security FY2007 budget request for bioweapons-related funding is \$1.435 billion, approximately 6% higher than the estimated spending for FY2006. The increase is primarily due to an expected increase in spending by Project BioShield, which was established in FY2004 to accelerate research and development of drugs and vaccines against biological weapons agents, as well as countermeasures for chemical and radiological threats, in part by establishing a permanent source of funding through which the federal government could buy such countermeasures from private companies. Of the \$3.418 billion in Project BioShield money available for FY2004 through FY2008, DHS expects to spend \$1.045 billion in FY2007. The most recent BioShield awards include \$326.6 million to the Cangene Corporation for 200,000 doses of botulinum antitoxin, announced on June 1, 2006,⁷ and \$165 million to Human Genome Sciences, Inc for 20,000 doses of a drug designed to block the lethal effects of anthrax spores in the body.⁸ In the Preparedness Directorate (established in the FY2006 DHS reorganization), an increase of \$3 million is requested for the new Office of the Chief Medical Officer; \$2 million is budgeted for the new Joint AgroTerror Defense Office (JADO) within the Science and Technology (S&T) Directorate.

Recently, the House Homeland Security Appropriations Sub-Committee requested that the DHS Science and Technology (S&T) Directorate develop a strategic plan for its Biological Countermeasures program by January 16, 2007.⁹ The Committee calls for a proposal to clarify "DHS' roles and responsibilities, its framework for deploying sensors, its scope of activities, including how detector alerts would be managed, how it plans to enhance advance animal vaccine research and other agro-terrorism defense efforts, overall fulfillment of the Department's obligations under HSPD-10, and how other activities of this portfolio relate to such efforts by other government agencies." DHS is also expected to announce a reorganization plan for the S&T Directorate soon.

DHS budget numbers often lack detail; the actual DHS budget in FY2003 and FY2004 is especially unclear. In part, this reflects problems associated with the rapid creation of DHS in FY2003 and the confusing transfer of programs and funds to DHS from other departments. Significant unobligated funds for FY2003 may have been carried over into FY2004, creating further accounting difficulties. The figures presented in this analysis represent best estimates, and may be minimums, for FY2003 and FY2004.

Table 7. Department of Homeland Security (DHS) budget breakdown (in \$ millions)^a

Program or Activity	FY03 actual	FY04 actual	FY05 actual	FY06 estmt	FY07 rqst
FEMA^b					
National Response Plan ^b					5
National Disaster Medical System ^c		82 ^d	34 ^d	34	34
Strategic National Stockpile		398			
<i>Subtotal, FEMA</i>		<i>480</i>	<i>63</i>	<i>64</i>	<i>39</i>
Preparedness Directorate^c					
Project BioShield ^e		885	189	869	1,045
National Biosurveillance Integration System (NBIS) ^f		2	11	14	8
Chief Medical Officer				2	5
Metropolitan Medical Response System (MMRS) ^g		50	50	30	n/a
<i>Subtotal, Preparedness Directorate</i>		<i>937</i>	<i>250</i>	<i>915</i>	<i>1058</i>

⁷ At <http://www.hhs.gov/news/press/2006pres/20060601.html>

⁸ <http://www.chron.com/disp/story.mpl/ap/fn/3985888.html>

⁹ House Report 109-476

Science and Technology Directorate

University Programs (Homeland Security Centers of Excellence) ^h		33			
Biological Countermeasures					
BioWatch		53	118	n/a	n/a
Plum Island Animal Disease Center (PIADC) ⁱ	25	20	33 ^j	n/a	n/a
Joint AgroTerror Defense Office (JADO)					2
National Bio and Agrodefense Facility (NBAF)				23	0
<i>Subtotal, Biological Countermeasures</i>	<i>114^k</i>	<i>455</i>	<i>372^l</i>	<i>376</i>	<i>337</i>
National Biodefense Analysis and Countermeasures Center (NBACC) ^m	5	88	35		
<i>Subtotal, Science and Technology Directorate</i>	<i>119</i>	<i>543</i>	<i>407</i>	<i>376</i>	<i>337</i>
Total, DHS	119	1,960	720	1,355	1,434

^a Sources: DHS Budgets-in-Brief for FY2005, FY2006, and FY2007 unless otherwise noted. As reflected here, funding subtotals are often provided without breakdown into program elements.

^b The Federal Emergency Management Agency (FEMA) was part of the Emergency Preparedness and Response Directorate (EP&R) until the latter was eliminated as a result of DHS reorganization in FY2006. FEMA is independent of the newly created Preparedness Directorate, which replaced EP&R.

^c May include some funding that is not biodefense-specific

^d Source: White House FY2006 and FY2007 DHS Budget Appendices; www.whitehouse.gov/omb/budget/

^e The Project BioShield Act of 2004 authorized \$5.593b for biodefense countermeasures, as follows: \$3.418b for FY2004-FY2008, \$2.175b for FY2009-FY2013 (see H. Rept 108-280). In FY2005, DHS received an advance appropriation of \$2.528b for obligation through FY2008. The numbers here reflect actual or expected spending for each fiscal year since FY2004.

^f In FY2004 and FY2005, NBIS was located in the Infrastructure Protection and Information Analysis Directorate. Additional sources: GAO Report (GAO-05-308) Report on Public Health IT Initiatives; CRS Report (RL33428) "Homeland Security Department: FY2007 Appropriations" (5/10/06)

^g Part of DHHS prior to FY2004. See also DHS Appropriations Conference Report H Rept 108-280

^h Obligated funds for 3-year grants to Texas A&M University (\$18m, National Center for Foreign Animal and Zoonotic Disease Defense) and the University of Minnesota's (\$15m, Center for Post-Harvest Food Protection and Defense)

ⁱ Sources: CRS Report (RS21270): "Homeland Security and Counterterrorism Research and Development: Funding, Organization, and Oversight" (6/20/03); GAO Report (GAO-06-132) "Plum Island Animal Disease Center: DHS and USDA Are Successfully Coordinating Current Work, but Long-Term Plans Are Being Assessed."

^j This number is uncertain. The DHS FY2005 Budget-in-Brief (pages 50-51) requests a total funding level of \$32.9 million for PIADC. In contrast, GAO Report GAO-06-132 states that a total of \$51 million was allocated to DHS for PIADC in FY2005." Of this, \$8.3m was for programmatic funds for DHS. A graph in the report shows ~\$27m for operations and maintenance and ~\$13m for facility improvements.

^k Actual spending in FY2003 is uncertain. Various sources may give different numbers. The figure provided here represents the sum of DOE Predecessor Program funding (\$89m) and PIADC funding (\$25m), both transferred to DHS in FY2003 (see also FY 2004 Congressional Budget for Department of Energy and CRS Report RL31914: Research and Development in the Department of Homeland Security (6/20/03)). According to CRS Report RS32482: Homeland Security and Combating Terrorism Research and Development: Funding, Organization, and Oversight (3/15/04), FY2003 spending was \$363m. However, according to the FY2006 Congressional Justification for DHS S&T actual FY2004 spending was \$455m, or \$189m more than appropriated. This likely represents a carryover of unspent FY2003 funds. Moreover, the FY2004 Appropriations included \$68m in unobligated FY2003 funds (Department of Homeland Security Appropriations Conference Report H. Rept. 108-280). The President requested \$420 m to be transferred to DHS in FY2003 from DOD for the National Bioweapons Defense Analysis Center (subsequently NBACC), out of a total DHS S&T budget of \$552 million. The disposition of this money is unknown, but a portion likely funded non-biodefense programs and activities.

^l Includes \$9.4m transferred to Management and Administration for salaries associated with the Biological Countermeasures portfolio (DHS FY2005 Conference Report, H Report 108-774).

^m Sources: FY 2004 Homeland Security Appropriations Conference Report (H Rept. 108-280); FY2005 Homeland Security Senate Appropriations Subcommittee Report (S. Rept. 108-280); FY2005 Homeland Security Appropriations Conference Report (H Report 108-774).

State Department

The State Department FY2007 budget request for bioweapons-related programs is \$77.7 million, 9% higher than FY2006 estimated spending. New in FY2007 is the establishment of the WMD Scientist Redirection Program in Iraq, which exists as one of four programs in the Nonproliferation of WMD Expertise Program. Thus far, the Iraqi International Center for Science and Industry has been established, and further development is expected to continue.

Table 8. Department of State budget breakdown (in \$ millions)^a

Department of State^a (in millions)	FY01 actual	FY02 actual	FY03 actual	FY04 actual	FY05 actual	FY06 estmt	FY07 rqst
Worldwide Security Upgrades ^b							
Chemical/Biological Program (Ongoing Security Activities)	4	4	15	17	17	19	21
Chemical/Biological Preparedness (Security Initiatives) ^c	0	0	0	0	0	0	1
<i>Subtotal, Worldwide Security Upgrades</i>	<i>4</i>	<i>4</i>	<i>15</i>	<i>17</i>	<i>17</i>	<i>19</i>	<i>21</i>
Nonproliferation of WMD Expertise ^d	35	67	52	50	50	52	56
Total, Department of State	39	71	67	67	67	71	78

^a Sources: State Department Budgets-in-Brief or Account Tables within the International Affairs (Function 150) Budget Requests for FY2003, FY2004, FY2005, FY2006, and FY2007 unless otherwise noted.

^b May include funding that is not biodefense-related.

^c For continued sustainment training and lifecycle replacement of chemical/biological escape masks for overseas missions

^d In FY2007, Nonproliferation of WMD Expertise (NWMDE) includes 4 programs: Science Centers, Bio-Chem Redirect (previously known as Bio-Chem Redirection or Biotechnology Redirection) (BCR), the BioIndustry Initiative (BII), and the WMD Scientist Redirection Program in Iraq.

Other Government Organizations

Department of Commerce

The Department of Commerce FY2007 budget request for bioweapons-related export control programs is \$6 million, unchanged from FY2006. In this analysis, bioweapons-related funding from FY2001 to FY2005 is estimated based on multiplying the actual appropriation for the Bureau of Industry and Security (BIS) by the fraction of export license requests processed by BIS that were for biological materials in each year (FY01-FY05), as reported in the BIS Annual Reports for FY2001 to FY2005, the BIS Foreign Policy Reports from 2002 to 2006, and the Dept. of Commerce Budget Appendices for FY2003 to FY2007. For FY2006 and FY2007, the average fraction of the previous three years (7.8%) was used.

Department of Energy (DOE)

The Department of Energy FY2007 budget request for bioweapons-related programs is \$6 million, about \$1 million lower than estimated spending for FY2006 if one-time funding for biodefense R&D in FY2006 is excluded. DOE funding is estimated by multiplying program and activity funding figures, found in DOE Budget Reports, by an estimate of the fraction of total funding dedicated to bioweapons-related activities. For Export Control, budget numbers were multiplied by 7.8% (based on Department of Commerce statistics), then by 50% (FY2003), 60% (FY2004), 70% (FY2005), and 100% (FY2006 and FY2007); the latter percentages are stated in budget documents as the proportion of all biological export control applications that DOE plans to review. For the Global Initiatives for Proliferation Prevention, approximately 55% of predecessor program funding in FY2001-FY2003 was dedicated to non-nuclear specific proliferation prevention activities. Of this, approximately 25% is estimated to be used for bioweapons proliferation prevention.¹⁰

Department of Veterans Affairs (VA)

The Department of Veterans Affairs FY2007 budget request for bioweapons-related programs is \$9 million, about \$1 million lower than FY2006 estimated spending. The department has one main program of relevance to biodefense – Medical Research: Emerging Pathogens/Bio-terrorism.

Environmental Protection Agency (EPA)

The Environmental Protection Agency FY2007 budget request for homeland security funding is estimated to be approximately \$183 million, 25% higher than FY2006 estimated spending. The portion of this funding that is related to biodefense can not be determined from publicly available information. Some activities – in particular the Water Sentinel program and the Homeland Security: Preparedness, Response, and Recovery program – are strongly tied to biodefense. In FY2002, EPA received emergency supplemental funding of \$174 million for anthrax clean-up and response.

National Science Foundation (NSF)

The National Science Foundation FY2007 budget request for bioweapons-related programs is \$28 million, about \$1 million more than estimated spending for FY2006. The National Science Foundation's primary biodefense programs are Microbial Genome Sequencing and Ecology of Infectious Diseases.

United States Postal Service (USPS)

The United States Postal Service has received funding over the past years for activities related to protection and response to biological weapons agents, particularly anthrax. Since FY2001, USPS has

¹⁰ "Building a Bio-proliferation Prevention Agenda," Oct 19, 2005, Raphael Della Ratta, at www.ransac.org, accessed June 20, 2006

received a total of approximately \$1.265 billion in biodefense-related funding. No funding is requested in FY2007.

Intelligence Community (Federal Bureau of Investigation (FBI), Central Intelligence Agency (CIA), and Office of the Director of National Intelligence (ODNI))

Although the FBI, CIA and ODNI all have bioweapons-related programs and activities, very little information can be found regarding such activities and their funding.

Table 9. Other Government Agencies' budget breakdown (in \$ millions)

Department or Agency	FY01 actual	FY02 actual	FY03 actual	FY04 actual	FY05 actual	FY06 estmt	FY07 rqst
Department of Commerce	3	4	4	7	6	6	6
Department of Energy (DOE)							
Office of Biological and Environmental Rsrch: Life Sciences: Microbial Genomics/Pathogens ^a	n/a	n/a					
NNSA: Non-Proliferation and Verification R&D: Chemical and Biological National Security Program ^{a, b}	40	85					
NNSA: Non-Proliferation and International Security: Export Control ^c			1	1	1	2	2
NNSA: Global Initiative for Proliferation Prevention (GIPP)	6	9	6	5	6	5	4
CB Detection; National Cntr for Biodefense at George Mason University ^d						6	
<i>Total, DOE</i>	<i>46</i>	<i>94</i>	<i>7</i>	<i>6</i>	<i>7</i>	<i>13</i>	<i>6</i>
Department of Veterans Affairs (VA): Medical Research -- Emerging Pathogens/Bio-terrorism ^e	n/a	n/a	27	23	9	10	9
Environmental Protection Agency (EPA) ^f	n/a	187	133	131	107	129	183
National Science Foundation (NSF) ^g							
Microbial Genome Sequencing	0	17 ^h	26 ^h	17	17	17	18
Ecology of Infectious Diseases	0			10	10	10	10
<i>Total, NSF</i>	<i>0</i>	<i>17</i>	<i>26</i>	<i>27</i>	<i>27</i>	<i>27</i>	<i>28</i>
United States Postal Service (USPS)							
Response to anthrax ⁱ	175						
Protection and Screening ^j		587			503		
<i>Total, USPS</i>	<i>175</i>	<i>587</i>			<i>503</i>		
Intelligence Community	n/a	n/a	n/a	n/a	n/a	n/a	n/a

^a Transferred to DHS in FY2003.

^b NNSA = National Nuclear Security Administration. Includes funding for some chemical defense activities. Sources: FY 2002 Congressional Budget for Department of Energy, under Defense Nuclear Nonproliferation/Nonproliferation and Verification R&D;

CRS Report RL31914: Research and Development in the Department of Homeland Security (6/20/03)

^c In FY2007, the NNSA Export Control program is divided into three separate activities: International Non-Proliferation and Export Control, Export Control Licensing Operations, and Export Control Multi-lateral.

^d Sources: FY2006 Appropriations, Conference Report (H Rept 109-275): \$5m for CB detection R&D, \$1m for National Center.

^e Sources: FY2005, FY2006, FY2007 Budget Submission Summary Volumes

^f Analytical Perspectives: Budget of the United States Government, Fiscal Years 2004 – 2007, Table 3-1.

^g Sources: NSF's Budgets-in-Brief for FY2004, FY2005, FY2006, and FY2007 unless otherwise noted.

^h May include more than bioweapons-related money.

ⁱ Emergency Response Fund, P.L. 107-38 (11/20/01)

^j Sources: Emergency Supplemental Act of 2002 (P.L. 107-117); Supplemental Appropriations Act of FY2002 (P.L. 107-126); Omnibus 2005 Appropriations bill (P.L. 108-447)