

## FEDERAL AGENCY BIODEFENSE FUNDING, FY2013-FY2014

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Since 2001, the United States government has spent substantial resources on preparing the nation against a bioterrorist attack. Earlier articles in this series have analyzed civilian biodefense funding by the federal government for fiscal years (FY) 2001 through proposed funding for FY2013. This article updates those figures with budgeted amounts for FY2014, specifically analyzing the budgets and allocations for biodefense at the Departments of Health and Human Services, Defense, Homeland Security, Agriculture, Commerce, Veterans Affairs, and State; the Environmental Protection Agency; and the National Science Foundation. This article also includes an updated assessment of the proportion of biodefense funding provided for programs that address multiple scientific, public health, healthcare, national security, and international security issues in addition to biodefense. The FY2014 federal budget for civilian biodefense totals \$6.69 billion. Of that total, \$5.86 billion (88%) is budgeted for programs that have both biodefense and nonbiodefense goals and applications, and \$835 million (12%) is budgeted for programs that have objectives solely related to biodefense.

**T**HIS ARTICLE ANALYZES FEDERAL GOVERNMENT funding for civilian biodefense from fiscal year (FY) 2001 through the proposed budget for FY2014. This analysis uses information from FY2014 budget materials, as well as figures from the 9 previous articles in this series (formerly titled “Billions for Biodefense”).<sup>1-9</sup> Based on this year’s analysis of the FY2014 presidential budget, biodefense funding for FY2014 would receive an increase when compared to current estimates of FY2013 funding levels. The total proposed FY2014 budget for civilian biodefense programs is \$6.69 billion (Table 1, Figure 1).

A majority of the programs included from the FY2014 biodefense budget have both biodefense and nonbiodefense goals and applications. For some of these programs, biodefense is a secondary goal. These programs are intended to address a range of scientific, public health, healthcare, national security, and international security issues in addition to biodefense. Programs with both biodefense and nonbiodefense goals and applications include those that fund basic scientific research in infectious disease pathogenesis and immunology, programs to improve planning and

operations related to public health preparedness, and programs to improve preparedness and response for a range of other disasters.<sup>10</sup>

### Basic Article Assumptions and Methods

- **Fiscal Years:** FY2001-FY2012 (actual funds spent on biodefense), FY2013 (estimated biodefense funds), FY2014 (budget request)
- **Agencies Included:** HHS, DoD, DHS, USDA, EPA, Commerce, State, NSF, VA
- **Programs Included:** Programs solely related to biodefense, and programs with significant biodefense goals or impact on biopreparedness.
- **Programs Excluded:** All-hazards programs (without biodefense in the mission or project description), funding just for pandemic flu, and programs specific to the warfighter with no civilian applications.
- **Uncertainties:** Funding amounts for FY2013 were estimated under unclear conditions for Continuing Resolutions and Sequester cuts.

Table 1. U.S. Government Civilian Biodefense Funding, FY2001-FY2014 (in \$millions)

	FY2001-	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	Totals
									(actual)	(estimate)	(budget)	
Department of Health and Human Services	14,916.1	4,132.3	4,069.3	3,993.3	4,359.9	4,068.4	4,149.8	3,923.7	3,985.5	4,100.0	51,698.2	
Department of Defense	2,366.7	583.0	555.0	578.0	717.6	675.1	788.7	922.6	1,128.8	1,155.8	9,471.3	
Department of Homeland Security <sup>a,b,c</sup>	5,191.2	567.3	353.8	359.4	2,550.1	477.6	389.6	335.2	358.1	1,046.2	11,628.6	
Department of Agriculture <sup>d</sup>	607.0	247.0	186.0	215.0	218.0	92.0	84.0	92.0	92.0	94.0	1,927.0	
Environmental Protection Agency	556.2	129.1	153.1	157.4	162.3	150.4	128.3	96.2	102.5	101.7	1,737.3	
Department of Commerce	357.0	75.0	76.3	76.3	85.3	100.3	102.9	101.0	101.6	112.1	1,187.8	
Department of State	276.2	74.3	65.1	60.6	66.1	74.0	74.3	73.2	73.2	67.8	904.7	
National Science Foundation	102.2	31.3	26.9	15.0	15.0	15.0	15.0	15.0	15.0	15.0	265.4	
Department of Veterans Affairs	—	0.3	0.3	0.3	1.3	1.0	1.3	0.7	0.7	0.7	6.6	
<b>Total USG Civilian Biodefense Funding</b>	<b>24,372.6</b>	<b>5,839.6</b>	<b>5,485.8</b>	<b>5,455.4</b>	<b>8,175.6</b>	<b>5,653.8</b>	<b>5,733.8</b>	<b>5,559.6</b>	<b>5,857.4</b>	<b>6,693.3</b>	<b>78,826.9</b>	
Total USG Civilian Biodefense Funding (minus BioShield funds)	20,980.6	5,839.6	5,485.8	5,455.4	6,000.6	5,653.8	5,733.8	5,559.6	5,857.4	6,443.3	73,009.9	
BioShield Funds	3,392.0	—	—	—	2,175.0	—	—	—	—	—	250.0	
Total Funding Strictly for Civilian Biodefense (Programs with goals beyond biodefense excluded)	6,355.1	670.7	646.0	614.6	2,783.2	435.2	557.6	478.3	517.3	835.3	13,893.3	
<b>Spent through FY2013</b>	<b>72,133.6</b>											
<b>Spent through FY2013 + FY2014 Budget</b>	<b>78,826.9</b>											

<sup>a</sup>The Department of Homeland Security (DHS) was created in FY2003.

<sup>b</sup>DHS was unable to provide complete data; accordingly, some items are missing. See Table 4.

<sup>c</sup>DHS FY2004, FY2005, and FY2009 budgets include one-time advanced appropriations for Project BioShield of \$890 million, \$2.5 billion, and \$2.2 billion, respectively.

<sup>d</sup>FY2001-FY2002 numbers not available due to budget methods used by USDA.

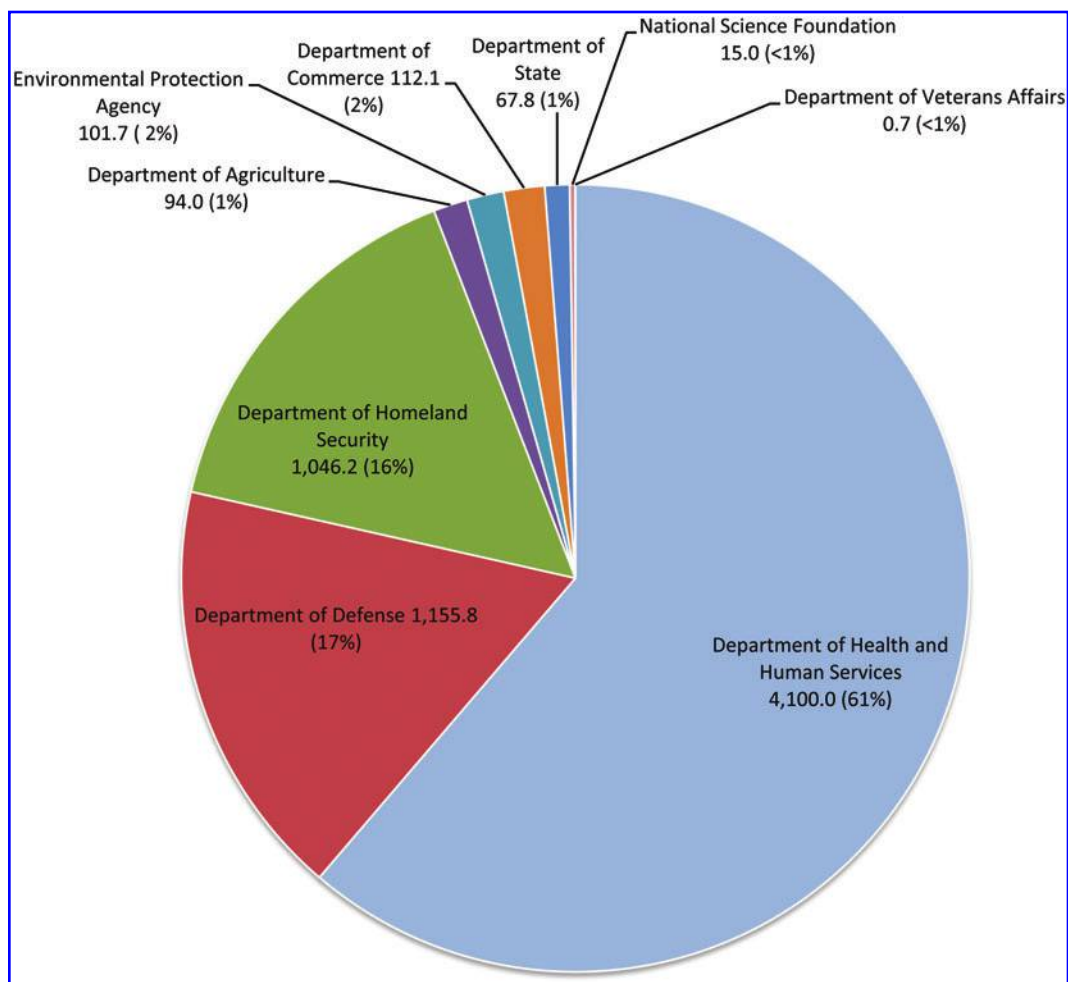


Figure 1. Civilian Biodefense Budget by Agency, FY2014 (in \$millions). Color graphics available online at [www.liebertonline.com/bsp](http://www.liebertonline.com/bsp)

This analysis shows that approximately 88% (\$5.86 billion) of the \$6.69 billion budgeted in FY2014 for programs with biodefense in the mission or title is intended not only to improve biodefense, but also to address a range of scientific, public health, healthcare, agriculture, national security, and international security issues. In contrast, 12% (\$853 million) of the FY2014 biodefense budget would go to programs that have objectives solely related to biodefense (Table 2, Figure 2). In recent years, approximately 10% of proposed funding is for solely biodefense-related projects. However, this year’s proposed budget includes funds for Project BioShield, which had previously been funded by large appropriations in FY2004, FY2005, and FY2009. This proposed funding increases the estimated proportion of funds for solely biodefense-related programs in FY2014. Over the course of the 14 fiscal years in this analysis, including proposed funding for FY2014, \$64.93 billion of the \$78.83 billion total in biodefense funding has been dedicated to programs with both biodefense and non-biodefense goals and applications, while only \$13.89 billion has gone to programs with objectives solely related to biodefense (Table 2, Figure 2).

## FUNDING TRENDS

Based on analyses from previous biodefense funding articles and updated numbers for this year’s article, it appears that the overall proposed FY2014 biodefense budget would be increased compared to estimated funding levels for FY2013.<sup>1-9</sup> Proposed funding for construction of the National Bio and Agro-Defense Facility (NBAF) is the main contributor to the overall funding increase shown in this analysis. The facility will support research on foreign animal, emerging, and zoonotic diseases that threaten animal health, agriculture, and public health. Funding increases are proposed for biodefense programming in the Department of Health and Human Services (HHS), the Department of Defense (DoD), the Department of Homeland Security (DHS), the Department of Agriculture (USDA), and the Department of Commerce. Additionally, as with recent past analyses, a number of biodefense programs have been combined with other line items and are no longer distinguishable, leading to the appearance of higher funding (Table 1, Figure 2).

## METHODS, SOURCES, AND ASSUMPTIONS

This year's analysis employed similar methods and sources as were used in previous articles in this series. Sources for the FY2014 analysis include agency "Budgets in Brief," agency budget justifications, and personal contact with agency representatives to obtain and track civilian biodefense funding. In order to make this analysis readable, funding amounts for FY2001-FY2005 have been collapsed into 1 column in the tables. Please see previous Federal Biodefense Funding analyses for a full, detailed description of methods, sources, assumptions, and FY2001-FY2005 funding details.<sup>1-9</sup>

In addition to the analysis of biodefense funding by federal agency, this article includes an updated assessment of the proportion of civilian biodefense funding, from FY2001 through FY2014, that has been dedicated to programs with objectives solely related to biodefense versus the amount provided for programs with both biodefense and nonbiodefense goals and applications.

For the purpose of this analysis, a program with objectives solely related to biodefense is defined as *a program that focuses entirely on prevention, preparedness, and/or mitigation of deliberate biological threats to civilians*. Some specific examples of programs with solely biodefense goals are the DHS Bio-Watch program for biological agent early detection, HHS smallpox and anthrax vaccine research, and DoD cooperative biological threat reduction programs to engage former bioweapons scientists in new biological research activities.

A program with both biodefense and nonbiodefense goals is defined as *a program that serves one or more purposes beyond biodefense. At least 1 major element of the program is specifically related to improving biodefense. However, the program also has objectives related to advancing other areas of science, public health, healthcare, national security, or international security*.

Programs with both biodefense and nonbiodefense goals include the HHS Hospital Preparedness Program (HPP), which helps to improve healthcare surge capacity around the country for multiple hazards including bioterrorism; the National Institute of Allergy and Infectious Diseases' (NIAID) Biodefense Research Program, which, in addition to funding preclinical and clinical research toward biodefense countermeasures, also funds basic infectious disease pathogenesis and immunology research with implications for a multitude of other diseases; and the DoD WMD Civil Support Teams, which would be deployed to respond to a range of disasters in the United States, including a biological attack (Table 2, Figure 2).

## CIVILIAN BIODEFENSE FUNDING BY FEDERAL AGENCY

### *Department of Health and Human Services*

For FY2014, the HHS budget would be increased to \$4.1 billion, a proposed rise of \$114.5 million (3%) above

### **BioShield**

- BioShield funds were originally appropriated to a Special Reserve Fund (SRF) in FY2004.
- Under the Department of Homeland Security Appropriations Act of 2004, the BioShield SRF received an appropriation of \$5.6 billion. Of that amount, \$885 million and \$2.507 billion were allocated under the DHS budget in FY2004 and FY2005, respectively, for use in FY2004-FY2008. The remainder of the appropriation (\$2.175 billion) was then allocated to BioShield in FY2009 for use in FY2009-FY2013.
- Although BioShield funds were allocated to DHS, the funds have been used for countermeasure activities in DHS and HHS over multiple years.
- BioShield funding allocated in a specific year does not accurately reflect the amount of money spent by the BioShield program in that year (Figure 4).
- The Consolidated Appropriations Act of 2010 authorized the transfer of the remaining balance of the BioShield SRF out of DHS and into an HHS account for "biodefense countermeasures."
- The Pandemic and All Hazards Preparedness Reauthorization Act of 2013 (Pub. L. 113-5) reauthorized Project BioShield and suggested a new amount for the SRF of \$2.8 billion for use in FY2014-FY2018. Congress will consider this amount in appropriations discussions for FY2014.

current estimated FY2013 funding levels (Table 3). The majority of the HHS biodefense budget would be used for programs with many public health and medical response or preparedness goals. Of the \$4.1 billion proposed budget, only \$255 million (for project BioShield and the pilot US Postal Service Medical Countermeasure Dispensing program) would be used solely for biodefense in FY2014 (Table 2).

Programs that make up the majority of requested funds for HHS in FY2014 are located in the US Centers for Disease Control and Prevention (CDC), the National Institutes of Health (NIH), the Food and Drug Administration (FDA), and the Office of the Assistant Secretary for Preparedness and Response (ASPR) (Figure 3).

The proposed CDC budget would result in a \$47.7 million reduction from FY2013 estimated funding as a result of cuts to CDC's 3 biodefense programs. State and Local Preparedness and Response Capability, which includes the Public Health Emergency Preparedness (PHEP) cooperative agreement grant program, would be reduced by \$8.2 million to \$658 million. This represents a 30% reduction from actual FY2002 funding levels. The Strategic National Stockpile would see a reduction of \$38.4 million from estimated FY2013 levels to \$510.3 million, and the

Table 2. Strictly Biodefense Funding (excluding programs with goals beyond biodefense), FY2001-FY2014 (in \$millions)

	FY2001- FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012 (actual)	FY2013 (estimate)	FY2014 (budget)	Totals
<b>HHS</b>											
<b>Direct Appropriations to Agency Budgets (Non-PHSSEF)</b>											
<b>GDC</b>											
Supplemental Appropriations (Smallpox)	100.0	—	—	—	—	—	—	—	—	—	100.0
Anthrax Vaccine Research	54.0	0	12.0	8.0	—	—	—	—	—	—	74.0
Botulinum Antitoxin Research	0	—	3.0	—	—	—	—	—	—	—	3.0
Subtotal, CDC	154.0	0	15.0	8.0	0	0	0	0	0	0	177.0
<b>NIH</b>											
rPA Anthrax Vaccine Intermediate Scale-up	240.0	—	—	—	—	—	—	—	—	—	240.0
MVA Smallpox Vaccine Intermediate Scale-up	120.0	—	—	—	—	—	—	—	—	—	120.0
Subtotal, NIH	360.0	0	0	0	0	0	0	0	0	0	360.0
<b>HRSA</b>											
Hospital Preparedness Bioterrorism Training and Curriculum Development	84.0	—	—	—	—	—	—	—	—	—	84.0
Smallpox Compensation	42.0	—	—	—	—	—	—	—	—	—	42.0
Countermeasure Injury Compensation Fund	—	—	—	—	—	—	3.5	—	—	—	3.5
Subtotal, HRSA	126.0	—	—	—	—	0	3.5	—	—	—	129.5
<b>Subtotal, HHS Direct Appropriations</b>	<b>640.0</b>	<b>0</b>	<b>15.0</b>	<b>8.0</b>	<b>0</b>	<b>0</b>	<b>3.5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>666.5</b>
<b>Office of the Secretary, PHSSEF</b>											
<b>Assistant Secretary for Emergency Preparedness and Response (ASPR)</b>											
HPP Biodefense Training and Curriculum Development	—	21.0	21.0	—	—	—	—	—	—	—	42.0
Medical Countermeasures Dispensing (USPS pilot program)	—	—	—	—	—	10.0	0	0	0	5.0	15.0
Advanced Research and Development (moved from NIAID NIH)	—	54.0	104.0	102.0	—	—	—	—	—	—	260.0
BioShield Management	—	0	16.0	21.0	—	—	—	—	—	—	37.0
Project BioShield	—	—	—	—	—	—	—	—	—	250.0	250.0
Subtotal, ASPR	—	75.0	141.0	123.0	0	10.0	0	0	0	255.0	604.0
Subtotal, Office of the Secretary, PHSSEF Biosecurity	—	75.0	141.0	123.0	0	10.0	0	0	0	255.0	604.0
<b>Total HHS Civilian Biodefense Funding</b>	<b>640.0</b>	<b>75.0</b>	<b>156.0</b>	<b>131.0</b>	<b>0</b>	<b>10.0</b>	<b>3.5</b>	<b>0</b>	<b>0</b>	<b>255.0</b>	<b>1,270.5</b>
<b>DoD</b>											
<b>Defense Advanced Research Projects Agency (DARPA)</b>											
Biological Warfare Defense Program	773.3	132.8	99.9	64.1	164.0	41.3	35.3	30.8	19.2	24.5	1,385.3
<b>Defense Threat Reduction Agency (DTRA)</b>											
BW Proliferation Prevention	83.7	—	—	—	—	—	—	—	—	—	83.7
BW Infrastructure Elimination	17.1	2.2	0.5	—	—	—	—	—	—	—	19.8
Biosecurity, Biosafety, Threat Agent Detection and Response	92.9	66.3	66.1	152.7	171.7	—	—	—	—	—	549.7
Cooperative Biological Research (CBR)	26.4	1.4	5.8	21.8	5.7	—	—	—	—	—	61.1
Cooperative Biological Engagement (includes Biological Safety and Security, CBR, and Disease Surveillance)	—	—	—	—	—	169.1	255.9	229.5	241.0	306.3	1,201.8
<b>Total DoD Civilian Biodefense Funding</b>	<b>993.4</b>	<b>202.7</b>	<b>172.3</b>	<b>238.6</b>	<b>341.4</b>	<b>210.5</b>	<b>291.2</b>	<b>260.3</b>	<b>260.2</b>	<b>330.8</b>	<b>3,301.4</b>

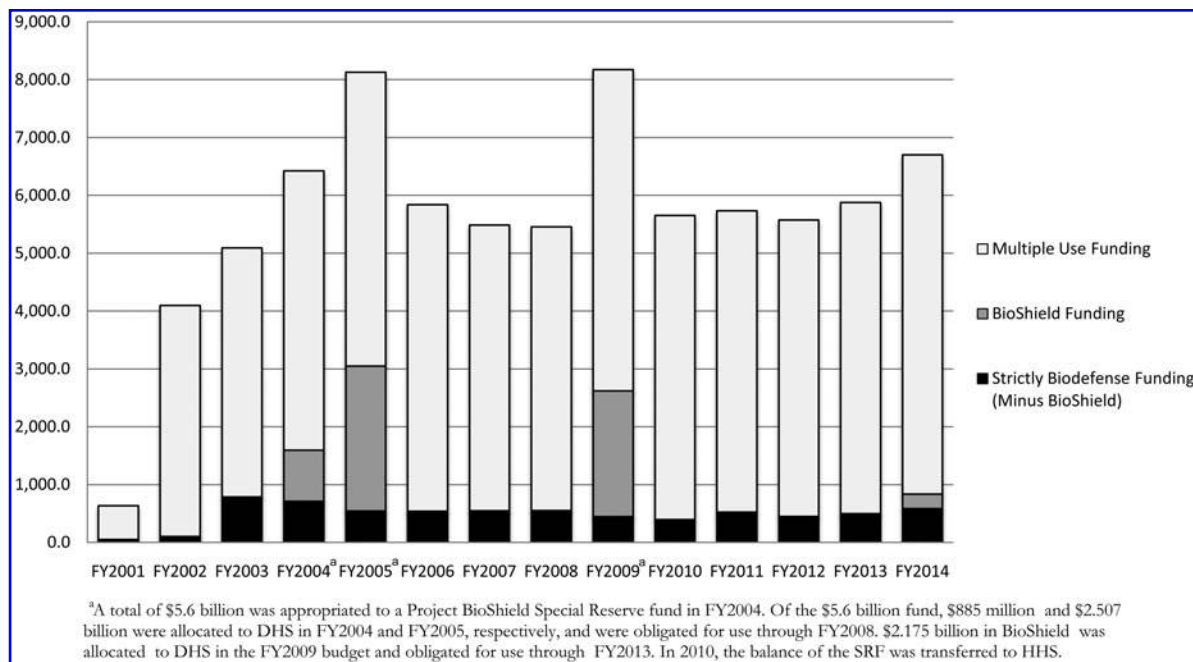
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Table 2. (Continued)

	FY2001- FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011 (actual)	FY2012 (estimate)	FY2013 (budget)	Totals
<b>DHS</b>										
<b>Office of Health Affairs</b>										
BioShield	3,392.0	0	0	0	2,175.0	0	0	—	—	5,567.0
BioWatch	—	—	85.1	78.2	77.7	88.1	100.8	111.8	114.9	747.2
<b>Science &amp; Technology Directorate</b>										
Biological Countermeasures Thrust Area	1,009.7	376.2	228.4	137.4	118.9	124.9	—	—	—	1,995.5
CN&E Defense Thrust	—	—	—	—	—	—	—	—	—	—
Biological Defense	—	—	—	—	—	—	44.3	27.1	36.4	144.5
Bioagent Detection Program	—	—	—	—	—	—	37.7	19.6	27.9	120.4
Bioagent Threat Assessment Program	—	—	—	—	—	—	—	—	—	—
Disaster Resilience Thrust	—	—	—	—	—	—	—	—	—	—
Bioagent Attack Resiliency Program	—	—	—	—	—	—	50.7	30.5	48.9	183.0
Laboratory Facilities	—	—	—	—	—	—	—	—	—	—
Laboratory Operations	—	—	—	—	—	—	—	—	—	—
National Biodefense Analysis and Countermeasures Center (NBACC)	—	—	—	16.8	32.9	—	29.4	29.0	29.0	171.2
Laboratory Construction	128.0	13.0	0	11.0	35.6	—	—	—	—	187.6
NBACC Construction	4,529.7	389.2	313.5	243.4	2,440.1	213.0	262.9	218.0	257.1	9,116.4
<b>Total DHS Civilian Biodefense Funding</b>										
<b>USDA</b>										
<b>Agricultural Defense</b>										
Animal and Plant Health Inspection Service (APHIS)	3.0	3.0	3.0	—	—	—	—	—	—	9.0
Select Agents—Plants and Animals	3.0	3.0	3.0	0	0	0	0	0	0	9.0
<b>Total USDA Civilian Biodefense Funding</b>										
<b>EPA</b>										
Capitol Hill Anthrax Cleanup	20.0	—	—	—	—	—	—	—	—	20.0
<b>State Department</b>										
BioRedirection	169.0	—	—	—	—	—	—	—	—	169.0
Bureau of Arms Control, Verification, and Compliance	—	0.8	1.2	1.5	1.7	1.8	0	—	—	6.9
Office of Biological Weapons Affairs	169.0	0.8	1.2	1.5	1.7	1.8	0	0	0	175.9
<b>Total State Department Civilian Biodefense Funding</b>										
<b>Total Strictly Civilian Biodefense (programs with goals beyond biodefense excluded)</b>	6,355.1	670.7	646.0	614.5	2,783.2	435.2	557.6	478.3	517.3	13,893.3
<b>Total Funding for Programs with Multiple Goals Beyond Biodefense (Total Biodefense minus Strictly Biodefense)</b>	18,017.5	5,168.9	4,839.9	4,840.9	5,392.4	5,218.6	5,176.2	5,081.3	5,340.1	64,933.6
<b>Total USG Civilian Biodefense Funding (including multiple goal programs)</b>	24,372.6	5,839.6	5,485.8	5,455.4	8,175.6	5,653.8	5,733.8	5,559.6	5,857.4	78,826.9



Figure 2. Civilian Biodefense Funding by Fiscal Year, FY2001-FY2014 (in \$millions)



CDC Preparedness and Response Capability would be reduced by \$1.1 million.<sup>11</sup>

The FY2014 biodefense budget for ASPR shows an increase of \$122 million from estimated FY2013 levels. However, this is because of the addition of a new funding request of \$250 million for Project BioShield. There is a significant decrease proposed for the Hospital Preparedness Program (HPP), which would be cut by \$122.5 million from estimated FY2013 levels. Proposed funding for this program represents a 46% reduction from original FY2006 funding levels. Other programs in ASPR would be funded at a relatively steady level. The Biomedical Advanced Research and Development Authority (BARDA) would receive \$415 million. This funding would not be reallocated from the BioShield Special Reserve Fund as in past years, and it would include \$20 million for the proposed Strategic Investor program.<sup>12</sup>

In the FDA, the Advancing Medical Countermeasure Initiative would receive an 18% increase to 23.5 million.<sup>13</sup> A separate Medical Countermeasures program would receive an increase of \$11.1 million to \$111.3 million, and funds would also be provided to operationalize the Life Sciences Biodefense Lab. Food Defense and Physical Security funding would remain flat.

Finally, biodefense research administered through the National Institute of Allergy and Infectious Diseases (NIAID) in NIH would be funded with a \$9.9 million increase from estimated FY2013 funding levels.<sup>14</sup>

### Department of Defense

The FY2014 DoD budget includes \$1.16 billion for its civilian biodefense-related programs and activities, a \$27

million increase (2%) over the estimated FY2013 budget amount (Table 4).<sup>15-18</sup> DoD’s civilian biodefense portfolio includes programs intended to prevent biological terrorism; respond to domestic disasters, including bioterrorism; and perform research and development on medical countermeasures and technologies with biodefense applications. As in past years, DoD’s civilian biodefense programs include the Army National Guard’s WMD Civil Support Teams; the Defense Threat Reduction Agency’s (DTRA) Cooperative Biological Engagement program; the Defense Advanced Research and Development Authority’s (DARPA) Biological Warfare Defense Program; and the Medical Biological Defense (MBD) program under the Chemical and Biological Defense Program (CBDP).

Biodefense activities in the Chemical and Biological Defense Program (CBDP) represent the largest portion of DoD’s investment in biodefense activities with civilian applications. For FY2014, MBD is budgeted to receive \$642.2 million, a decrease of \$38.8 million from FY2013 estimates. Additionally, a number of the early stage research and development programs that previously had reductions in funding under MBD have been reorganized. Specifically, the Basic Research line item has been realigned under the Chemical and Biological Defense’s Life Sciences program, and the Applied Research and Advanced Technology Development (ATD) line items have been realigned under the Techbase Med Defense program. Funding for these programs has either remained level with (Basic Research) or decreased (Applied Research 17.1%, ATD 32.7%) from FY2013 estimated budget levels.<sup>17</sup>

For FY2014, DTRA’s Cooperative Biological Engagement (CBE) program is budgeted to receive an increase of





Table 3. (Continued)

	FY2001- FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012 (actual)	FY2013 (estimated)	FY2014 (budget)	Totals
<b>Office of the Secretary</b>											
Commissioned Corps Readiness and Response	3.0	4.0	10.0	4.0	15.0	14.8	14.8	—	—	—	65.6
<b>Subtotal, Direct Appropriations</b>	<b>14,704.1</b>	<b>3,490.3</b>	<b>3,363.3</b>	<b>3,351.3</b>	<b>3,558.9</b>	<b>3,170.4</b>	<b>3,233.8</b>	<b>2,985.5</b>	<b>3,045.2</b>	<b>3,040.0</b>	<b>43,942.7</b>
<b>Office of the Secretary, PHSSSEF</b>											
Office of Public Health and Emergency Preparedness <sup>e</sup>	179.0	—	—	—	—	—	—	—	—	—	179.0
<b>Assistant Secretary for Emergency Preparedness and Response (ASPR)</b>											
Operations	0	9.0	8.0	10.0	13.0	37.0	44.0	33.0	33.0	33.0	220.0
Preparedness and Emergency Operations	0	15.0	14.0	17.0	22.0	30.0	30.0	30.0	30.0	25.0	213.0
National Disaster Medical System (NDMS) <sup>f</sup>	0	47.0	47.0	46.0	50.0	52.0	52.0	53.0	53.0	53.0	453.0
Hospital Preparedness (HPP) Grants (moved from HRSA) (includes ESAR-VHP)	0	474.0	474.0	423.0	394.0	417.0	375.0	375.0	377.0	254.5	3,563.5
Biodefense Training and Curriculum Development	0	21.0	21.0	—	—	—	—	—	—	—	42.0
ESAR-VHP	—	—	—	—	—	—	6.0	5.0	5.0	0.5	16.5
BARDA <sup>g</sup>	0	—	—	—	306.0	320.0	378.0	415.0	415.0	415.0	2,249.0
Strategic Investor <sup>h</sup>	0	—	—	—	—	—	—	0	0	20.0	20.0
Medical Countermeasures Dispensing (USPS pilot program)	0	—	—	—	—	10.0	0	0	0	5.0	15.0
Advanced Research and Development (moved from NIAID NIH)	0	54.0	104.0	102.0	—	—	—	—	—	—	260.0
BioShield Management	0	0	16.0	21.0	—	—	—	—	—	—	37.0
International Early Warning and Surveillance	0	9.0	9.0	9.0	—	—	—	—	—	—	27.0
Policy and Planning	0	3.0	3.0	4.0	4.0	19.0	19.0	16.0	16.0	15.0	99.0
Project Bioshield	—	—	—	—	—	—	—	—	—	—	250.0
<b>Subtotal, ASPR</b>	<b>0</b>	<b>632.0</b>	<b>696.0</b>	<b>632.0</b>	<b>789.0</b>	<b>885.0</b>	<b>904.0</b>	<b>927.0</b>	<b>929.0</b>	<b>1,051.0</b>	<b>7,465.0</b>
<b>Other Office of the Secretary</b>											
Medical Reserve Corps	33.0	10.0	10.0	10.0	12.0	13.0	12.0	11.2	11.3	9.0	131.5
<b>Subtotal, Office of the Secretary, PHSSSEF Biosecurity<sup>h</sup></b>	<b>212.0</b>	<b>642.0</b>	<b>706.0</b>	<b>642.0</b>	<b>801.0</b>	<b>898.0</b>	<b>916.0</b>	<b>938.2</b>	<b>940.3</b>	<b>1,060.0</b>	<b>7,755.5</b>
<b>Total HHS Civilian Biodefense Funding</b>	<b>14,916.1</b>	<b>4,132.3</b>	<b>4,069.3</b>	<b>3,993.3</b>	<b>4,359.9</b>	<b>4,068.4</b>	<b>4,149.8</b>	<b>3,923.7</b>	<b>3,985.5</b>	<b>4,100.0</b>	<b>51,698.2</b>

<sup>a</sup>CDC Preparedness and Response Capability includes BioSense 2.0 and the Laboratory Response Network, in addition to the Select Agent Program.

<sup>b</sup>The SNS was located in the HHS Office of the Secretary for FY2001-FY2003 and FY2005-FY2007. In FY2004, it was located in the Department of Homeland Security. It is now a CDC function.

<sup>c</sup>Consolidated into CDC Preparedness and Response Capability line item.

<sup>d</sup>HRSA bioterrorism and hospital preparedness programs were moved to the ASPR Office in 2006.

<sup>e</sup>The Office of Public Health and Emergency Preparedness became the Office of the Assistant Secretary for Emergency Preparedness and Response (ASPR) in 2006.

<sup>f</sup>The National Disaster Medical System was moved from the Department of Homeland Security to the Department of Health and Human Services ASPR Office effective January 2007.

<sup>g</sup>Funds for Strategic Investor would be provided from BARDA funds.

<sup>h</sup>Some HHS biodefense funds are specifically requested through the Public Health Social Services Emergency Fund (PHSSEF). Placing funds in the PHSSEF enables them to be appropriated in one place and then allocated to targeted activities.

\*Estimated amounts based on previous year's funding.

Sources: HHS FY2014 Budget in Brief: <http://www.hhs.gov/budget/fy2014/fy-2014-budget-in-brief.pdf>; NIH, NIAID FY2014 Budget: <http://www.niaid.nih.gov/about/whoWeAre/budget/Documents/2014CJ.pdf>; Pg. NIAID 11; FDA FY2014 Congressional Budget Justification: <http://www.fda.gov/downloads/AboutFDA/ReportsManualsForms/Reports/BudgetReports/UCM347422.pdf>; Pg. 11; HHS 2014 Centers for Disease Control and Prevention Justification of Estimates for Appropriation Committees: [http://www.cdc.gov/fmo/topic/Budget%20Information/appropriations\\_budget\\_form\\_pdf/FY2014\\_CJ\\_CDC\\_FINAL.pdf](http://www.cdc.gov/fmo/topic/Budget%20Information/appropriations_budget_form_pdf/FY2014_CJ_CDC_FINAL.pdf); HHS FY2014 Public Health and Social Services Emergency Fund Justification of Estimates for Appropriation Committees: <http://www.hhs.gov/budget/fy2014/fy2014-phssec.pdf>; Personal contact with FDA officials

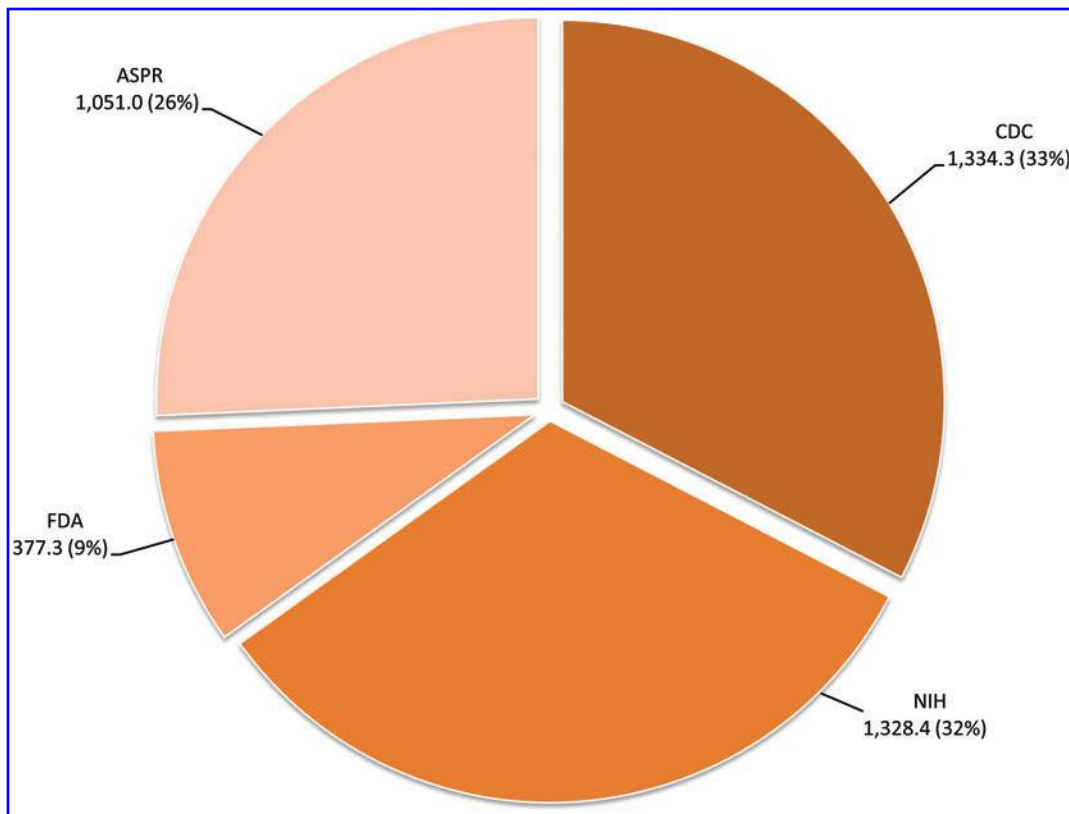


Figure 3. HHS Civilian Biodefense Budget, FY2014 (in \$millions). Color graphics available online at [www.liebertonline.com/bsp](http://www.liebertonline.com/bsp)

\$65.3 million, for a total of \$306.3 million. This program aims to counter the threat posed by high-risk pathogens (as delineated in the US Select Agent List), related materials and expertise, and other emerging infectious disease risks.<sup>16</sup> Examples of programmatic work under CBE includes the support of, construction of, and research in microbiology and public health laboratories overseas and continuing Cooperative Biological Research projects in partner nations.<sup>16</sup>

DARPA's Biological Warfare Defense program focuses on developing technologies for pathogen detection, prevention, treatment, and remediation and works jointly with other government agencies to fund programs supporting new approaches to biodefense. This program would receive an increase of \$5.3 million over the FY2013 estimate, for a total of \$24.5 million.<sup>18</sup>

Finally, the Army National Guard is budgeted to receive \$182.8 million for their WMD Civil Support Teams (CST), a slight decrease from the FY2013 estimate.<sup>15,17</sup> This funding supports training and equipment for a range of force configurations of various sizes, capabilities, and deployment time lines that would be deployed in the event of a catastrophic disaster, including bioterrorism, on US soil.

### *Department of Homeland Security*

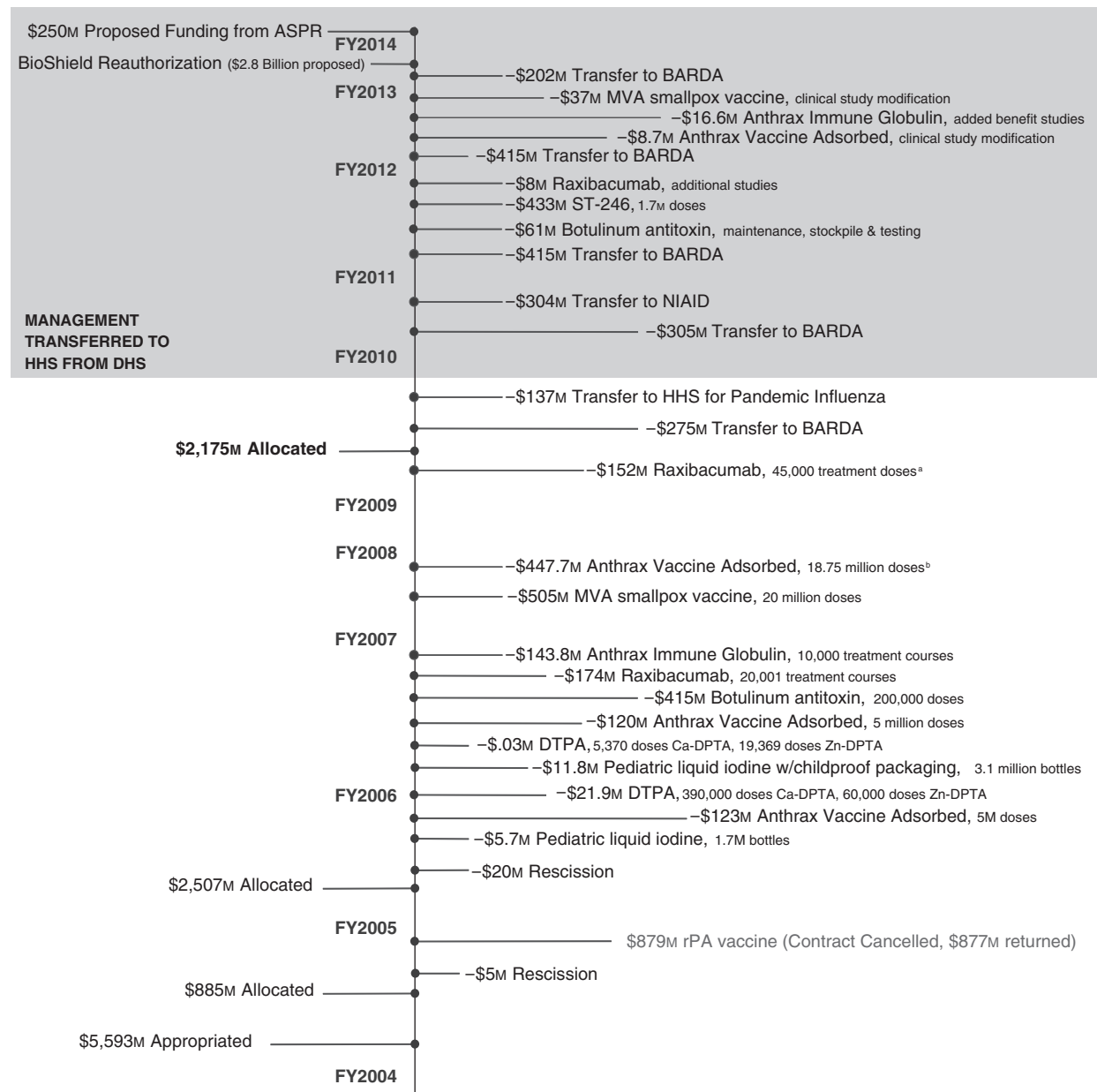
The DHS budget request for civilian biodefense programs totals \$1.05 billion for FY2014 (Table 5).<sup>19,20</sup> This is a

significant increase over FY2013 funding, estimated at \$358.1 million. The proposed increase in funding levels is almost entirely due to funding for construction of the National Bio and Agro-Defense Facility (NBAF).

Proposed FY2014 funding for programs in the DHS Office of Health Affairs was reduced to \$101.3 million, a 24% reduction from estimated FY2013 funding levels. Funding for the National Biosurveillance Integration Center would be cut by 34% to \$8 million, while BioWatch would be reduced by \$24.3 million, a 21% reduction. Much of this reduction is related to the defunding of BioWatch Generation 3, for which no funding was requested in the President's FY2014 budget.<sup>21</sup> A new Medical Countermeasures program was added to the analysis this year and is budgeted at \$1.9 million. The new program will provide countermeasures to DHS mission-essential personnel in accordance with Executive Order 13527.<sup>19</sup>

Several civilian biodefense programs would receive increased or level funding for FY2014 in the DHS Science and Technology Directorate (S&T). These include the Bioagent Detection Program, the Bioagent Threat Assessment Program, the Bioagent Attack Resiliency Program, and operations at the Plum Island Animal Disease Center and the National Biodefense Analysis and Countermeasures Center. Not counting construction funds, proposed changes to biodefense programs in S&T amount to approximately a 7% increase. The large increase in overall

Figure 4. BioShield Funding and Expenditures



<sup>a</sup> This figure does not include \$8 million in additional payments for studies to support FDA approval.

<sup>b</sup> This figure does not include a \$404.7 M contract for 14.5 M doses of Anthrax Vaccine Adsorbed announced in September 2008 because the purchase was made using CDC funds rather than the Project Bioshield Special Reserve Fund.

Note. Estimates for BioShield spending in FY2013 were not available at the time of publication.

Sources:

Franco C, Sell TK. Federal agency biodefense funding, FY2012-FY2013. *Biosecur Bioterror* 2012;10(2):162-181.

Gottron F. *The Project BioShield Act: Issues for the 112th Congress*. Washington, DC: Congressional Research Service; October 26, 2012.

U.S. Department of Health and Human Services. Project BioShield Annual Report to Congress: January 2012-December 2012. [https://www.medicalcountermeasures.gov/media/24463/pbs\\_report\\_2012\\_final\\_508.pdf](https://www.medicalcountermeasures.gov/media/24463/pbs_report_2012_final_508.pdf). Accessed July 24, 2013.

U.S. Department of Health and Human Services. FY2014 Budget in Brief. 2013. <http://www.hhs.gov/budget/fy2014/fy-2014-budget-in-brief.pdf>. Accessed May 20, 2013.

Table 4. Department of Defense Civilian Biodefense Funding, FY2001-FY2014 (in \$millions)

	FY2001- FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012 (actual)	FY2013 (estimate)	FY2014 (budget)	Totals
<b>Army National Guard</b>											
WMD Civil Support Teams											
Training <sup>a</sup>	39.5	16.7	23.2	27.7	26.3	32.9	34.8	38.1	163.6	169.5	572.3
Equipment and Capabilities (funded through CBDDP)	68.1	56.4	30.7	9.7	8.3	12.6	39.2	15.1	24.0	13.3	277.4
<b>Subtotal, Army National Guard</b>	<b>107.6</b>	<b>73.1</b>	<b>53.9</b>	<b>37.4</b>	<b>34.6</b>	<b>45.5</b>	<b>74.0</b>	<b>53.2</b>	<b>187.6</b>	<b>182.8</b>	<b>849.7</b>
<b>Defense Threat Reduction Agency (DTRA)</b>											
BW Proliferation Prevention	83.7	—	—	—	—	—	—	—	—	—	83.7
BW Infrastructure Elimination	17.1	2.2	0.5	—	—	—	—	—	—	—	19.8
Biosecurity, Biosafety, Threat Agent Detection and Response	92.9	66.3	66.1	152.7	171.7	—	—	—	—	—	549.7
Cooperative Biological Research (CBR)	26.4	1.4	5.8	21.8	5.7	—	—	—	—	—	61.1
Cooperative Biological Engagement	—	—	—	—	—	169.1	255.9	229.5	241.0	306.3	1,201.8
<b>Subtotal, DTRA</b>	<b>220.1</b>	<b>69.9</b>	<b>72.4</b>	<b>174.5</b>	<b>177.4</b>	<b>169.1</b>	<b>255.9</b>	<b>229.5</b>	<b>241.0</b>	<b>306.3</b>	<b>1,916.1</b>
<b>Defense Advanced Research Projects Agency (DARPA)</b>											
Biological Countermeasures	400.0	—	—	—	—	—	—	—	—	—	400.0
Biological Warfare Defense Program	773.3	132.8	99.9	64.1	164.0	41.3	35.3	30.8	19.2	24.5	1,385.3
<b>Chemical and Biological Defense Program (CBDDP) (Defense-wide)</b>											
Chemical/Biological Defense—Life Sciences											
Basic Research	—	—	—	—	—	—	—	21.9	34.6	34.6	91.1
Techbase Med Defense											
Applied Research	—	—	—	—	—	—	—	—	118.2	98.1	216.3
Advanced Technology Development	—	—	—	—	—	—	—	—	182.3	122.7	305.0
Medical Biological Defense											
Basic Research	133.7	53.8	66.1	33.2	15.1	15.2	13.5	6.2	—	—	336.8
Applied Research	191.6	89.2	93.5	98.9	50.5	54.9	51.2	87.8	—	—	717.5
Advanced Technology Development	204.0	87.9	87.1	96.0	180.4	196.0	153.4	168.7	—	—	1,173.5
Advanced Component Development and Prototypes	223.9	26.3	25.8	4.7	7.9	95.5	129.7	121.2	133.3	122.9	891.2
System Development and Demonstration	112.5	50.0	56.3	69.2	87.7	57.6	75.7	197.9	212.1	263.4	1,182.4
Operational Systems Development	0	—	—	—	—	—	—	5.4	0.5	0.5	6.4
<b>Subtotal, CBDDP biodefense activities</b>	<b>865.7</b>	<b>307.2</b>	<b>328.8</b>	<b>302.0</b>	<b>341.6</b>	<b>419.2</b>	<b>423.5</b>	<b>609.1</b>	<b>681.0</b>	<b>642.2</b>	<b>4,920.2</b>
<b>Total DoD Civilian Biodefense Funding</b>	<b>2,366.7</b>	<b>583.0</b>	<b>555.0</b>	<b>578.0</b>	<b>717.6</b>	<b>675.1</b>	<b>788.7</b>	<b>922.6</b>	<b>1,128.8</b>	<b>1,155.8</b>	<b>9,471.3</b>

<sup>a</sup>The program increase in FY2013 reflects a transfer of the 10 HRFs (Homeland Response Forces) into this CBRNE Enterprise and the addition to the C2CRE (Command Control Contingency Response Element) program funds.

Sources: FY2014 Department of the Army Budget Estimates: <http://asafm.army.mil/Documents/OfficeDocuments/Budget/budgetmaterials/fy14/milpers/hgpa-v1.pdf>, pg. 63; DoD FY2014 Operations and Maintenance CTR: [http://comptroller.defense.gov/defbudget/fy2014/fy2014\\_OM\\_Overview.pdf](http://comptroller.defense.gov/defbudget/fy2014/fy2014_OM_Overview.pdf), Pg. 49; DoD FY2014 Chemical and Biological Defense Program Budget Justification: [http://comptroller.defense.gov/defbudget/fy2014/budget\\_justification/pdfs/03\\_RDT\\_and\\_E/Chemical\\_Biological\\_Defense\\_Program\\_PB\\_2014.pdf](http://comptroller.defense.gov/defbudget/fy2014/budget_justification/pdfs/03_RDT_and_E/Chemical_Biological_Defense_Program_PB_2014.pdf), Pg. 22,27,28,142,184,322,415; DoD FY2014 DARPA RDTE budget: [http://comptroller.defense.gov/defbudget/fy2014/budget\\_justification/pdfs/03\\_RDT\\_and\\_E/Defense\\_Advanced\\_Research\\_Projects\\_Agency\\_PB\\_2014.pdf](http://comptroller.defense.gov/defbudget/fy2014/budget_justification/pdfs/03_RDT_and_E/Defense_Advanced_Research_Projects_Agency_PB_2014.pdf), Pg. 131.

Table 5. Department of Homeland Security Civilian Biodefense Funding, FY2003-FY2014 (in \$ millions)

	FY2003- FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012 (actual)	FY2013 (estimate)	FY2014 (budget)	Totals
<b>National Protection and Programs Directorate<sup>a</sup></b>											
National Disaster Medical System <sup>b</sup>	121.0	134.0	—	—	—	—	—	—	—	—	255.0
Strategic National Stockpile <sup>c</sup>	398.0	—	—	—	—	—	—	—	—	—	398.0
Metropolitan Medical Response System (MMRS)	130.0	30.0	33.0	—	—	—	—	—	—	—	193.0
<b>Subtotal National Protection and Programs Directorate</b>	<b>649.0</b>	<b>164.0</b>	<b>33.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>846.0</b>
<b>Office of Health Affairs</b>											
BioShield <sup>de</sup>	3,392.0	0	0	0	2,175.0	0	0	—	—	—	5,567.0
National Biosurveillance Integration Center (NBIC)	12.5	14.1	7.3	10.0	9.1	13.5	7.0	12.8	12.1	8.0	106.4
BioWatch <sup>fg</sup>	—	—	85.1	78.2	77.7	88.1	100.8	111.8	114.9	90.6	747.2
Planning and Coordination	—	—	—	—	—	3.7	2.3	5.9	5.5	0.8	18.2
Animal Disease and AgroDefense	—	—	—	0.8	0.7	—	—	—	—	—	1.5
Medical Readiness	—	—	—	3.8	4.8	—	—	—	—	—	8.6
Medical Countermeasures	—	—	—	—	—	—	—	0	0	1.9	1.9
<b>Subtotal OHA</b>	<b>3,404.5</b>	<b>14.1</b>	<b>92.4</b>	<b>92.7</b>	<b>2,267.3</b>	<b>105.3</b>	<b>110.1</b>	<b>130.5</b>	<b>132.5</b>	<b>101.3</b>	<b>6,450.7</b>
<b>Federal Emergency Management Agency (FEMA)</b>											
Medical Surge Grants (Metropolitan Medical Response System)	0	—	—	39.8	41.0	39.4	34.9	0	—	—	155.1
Regional Catastrophic Event Planning	0	—	—	—	—	33.6	15.0	0	—	—	48.6
<b>Subtotal FEMA</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>39.8</b>	<b>41.0</b>	<b>73.0</b>	<b>49.9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>203.7</b>

(continued)



Table 5. (Continued)

	FY2003-										Totals
	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012 (actual)	FY2013 (estimate)	FY2014 (budget)	
<b>Science &amp; Technology Directorate</b>											
Agriculture Thrust Area	—	—	—	17.4	23.7	24.2	—	—	—	—	65.3
Biological Countermeasures Thrust Area	1,009.7	376.2	228.4	137.4	118.9	124.9	—	—	—	—	1,995.5
CN&E Defense Thrust	—	—	—	—	—	—	—	—	—	—	—
Biological Defense <sup>b</sup>	—	—	—	—	—	—	—	—	—	—	—
Bioagent Detection Program	—	—	—	—	—	—	44.3	27.1	36.4	36.7	144.5
Bioagent Threat Assessment Program	—	—	—	—	—	—	37.7	19.6	27.9	35.2	120.4
Disaster Resilience Thrust	—	—	—	—	—	—	—	—	—	—	—
Bioagent Attack Resiliency Program	—	—	—	—	—	—	50.7	30.5	48.9	52.9	183.0
Laboratory Facilities <sup>i</sup>	—	—	—	—	—	150.2	—	—	—	—	150.2
Laboratory Operations	—	—	—	—	—	—	—	—	—	—	—
Plum Island Animal Disease Center (PIADC)	—	—	—	27.0	30.7	—	27.5	48.5	42.8	42.7	219.2
National Biodefense Analysis and Countermeasures Center (NBACC)	—	—	—	16.8	32.9	—	29.4	29.0	32.1	34.1	174.3
Laboratory Construction	—	—	—	—	—	—	—	—	—	—	—
PIADC Construction	—	—	—	17.3	0	—	—	—	0	29.3	46.6
National Bio and Agro-Defense Facility (NBAF) Construction Project	—	—	—	—	—	—	40.0	50.0	37.5	714.0	841.5
NBACC Construction	128.0	13.0	0	11.0	35.6	—	—	—	—	—	187.6
Subtotal, Laboratory Facilities	128.0	13.0	0	72.1	99.2	150.2	96.9	127.5	112.4	820.1	1,619.4
<b>Subtotal Science and Technology Directorate</b>	<b>1,137.7</b>	<b>389.2</b>	<b>228.4</b>	<b>226.9</b>	<b>241.8</b>	<b>299.3</b>	<b>229.6</b>	<b>204.7</b>	<b>225.6</b>	<b>944.9</b>	<b>4,128.1</b>
<b>Total DHS Civilian Biodefense Funding</b>	<b>5,191.2</b>	<b>567.3</b>	<b>353.8</b>	<b>359.4</b>	<b>2,550.1</b>	<b>477.6</b>	<b>389.6</b>	<b>335.2</b>	<b>358.1</b>	<b>1,046.2</b>	<b>11,628.6</b>

<sup>a</sup>Formerly the Preparedness Directorate (P.L. 109-295 and changes pursuant to section 872 of the Homeland Security Act, 2002).

<sup>b</sup>NDMS was transferred to the HHS Office of the Assistant Secretary for Preparedness and Response (ASPR) effective January 1, 2007.

<sup>c</sup>The Strategic National Stockpile was transferred to HHS (CDC).

<sup>d</sup>Of the \$5.6 billion BioShield special reserve fund (appropriated in FY2004), an amount not to exceed \$3.4 billion was allocated for FY2004-FY2008 for the program. The remaining approximately \$2.2 billion of the fund was allocated in the FY2009 budget for FY2009-FY2013.

<sup>e</sup>Funds appropriated for BioShield in years prior will be used in the current year.

<sup>f</sup>BioWatch was formerly located within the Science & Technology Directorate and had been part of the Biological Countermeasures line item through FY2006 (P.L. 109-295 and changes pursuant to section 872 of the Homeland Security Act, 2002).

<sup>g</sup>The FY2007 number for BioWatch is an estimate only. DHS could not confirm the validity of this number.

<sup>h</sup>The Biological Defense program area includes Agriculture Defense programs starting in FY2011.

<sup>i</sup>FY2010 breakdown of the DHS Laboratory Facilities line item was not published in DHS budget documents and could not be obtained that year. FY2011-FY2013 budgets were also not published in budget documents but were obtained through personal contact with DHS.

<sup>j</sup>Source: DHS FY2014 Budget in Brief: <http://www.dhs.gov/sites/default/files/publications/MGMT/FY2014%20BIB%20-%20FINAL%20-%20508%20Formatted%20%284%29.pdf>; DHS Budget Justification FY2014: <http://www.dhs.gov/sites/default/files/publications/MGMT/DHS-%20Annual%20Performance%20Report%20and%20Congressional-Budget-Justification-FY2014.pdf>; Personal contact with DHS officials. Malakoff D. Congress Completes Work on 2013 Spending Bill. Science Insider. March 25, 2013. <http://news.sciencemag.org/scienceinsider/2013/03/congress-completes-work-on-2013.html>

Table 6. Department of Agriculture Civilian Biodefense Funding, FY2001-FY2014 (in \$millions)

	FY2001-	FY2005 <sup>a</sup>	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012 (actual)	FY2013 (estimate)	FY2014 (budget)	Totals
<b>Food and Agricultural Defense Initiative<sup>b</sup></b>												
<b>Food Defense</b>												
Food Safety and Inspection Service (FSIS)												
Surveillance/Monitoring	5.0	3.0	—	3.0	—	—	—	—	—	—	—	11.0
Food Emergency Response Network (FERN)	3.0	2.0	—	4.0	—	—	—	—	—	—	—	9.0
Enhanced Inspections	4.0	2.0	—	2.0	—	—	—	—	—	—	—	8.0
Lab Upgrades/Physical Security	7.0	3.0	—	3.0	—	—	—	—	—	—	—	13.0
Education/Training	7.0	2.0	—	3.0	—	—	—	—	—	—	—	12.0
Other	13.0	5.0	—	5.0	—	—	—	—	—	—	—	23.0
ARS Food Defense Research	12.0	9.0	—	9.0	—	—	—	—	—	—	—	30.0
<b>Subtotal, Food Defense</b>	<b>51.0</b>	<b>26.0</b>	—	<b>29.0</b>	—	—	—	—	—	—	—	<b>106.0</b>
<b>Agricultural Defense</b>												
Agricultural Research Service (ARS)												
Ames, IA, BSL-3 Facility	264.0	58.0	—	0	—	—	—	—	—	—	—	322.0
Research	48.0	25.0	—	25.0	—	—	—	—	—	—	—	98.0
	2.0	2.0	—	2.0	—	—	—	—	—	—	—	6.0
National Plant Disease Recovery System												
Cooperative State Research, Education, and Extension Service (CSREES)	17.0	10.0	—	10.0	—	—	—	—	—	—	—	37.0
Regional Diagnostic Network												
Animal and Plant Health Inspection Service (APHIS)												
Enhanced Surveillance	118.0	87.0	—	82.0	—	—	—	—	—	—	—	287.0
BioSurveillance	2.0	2.0	—	2.0	—	—	—	—	—	—	—	6.0
Plant Safeguarding Activities	34.0	17.0	—	16.0	—	—	—	—	—	—	—	67.0
Select Agents—Plants and Animals	3.0	3.0	—	3.0	—	—	—	—	—	—	—	9.0
National Veterinary Stockpile	4.0	3.0	—	3.0	—	—	—	—	—	—	—	10.0
Others	64.0	14.0	—	14.0	—	—	—	—	—	—	—	92.0
<b>Subtotal, Agricultural Defense</b>	<b>556.0</b>	<b>221.0</b>	—	<b>157.0</b>	—	—	—	—	—	—	—	<b>934.0</b>
<b>Subtotal, Food and Agricultural Defense Initiative</b>	<b>607.0</b>	<b>247.0</b>	—	<b>186.0</b>	—	—	—	—	—	—	—	<b>1,040.0</b>
<b>Animal and Plant Health Inspection Service (APHIS)</b>												
Animal Health Monitoring and Surveillance	—	—	123.0	—	—	129.0	—	—	—	—	—	252.0
Emergency Management	—	—	15.0	—	16.0	22.0	22.0	22.0	18.0	18.0	19.0	130.0
All Other Plant and Animal Health Monitoring	—	—	6.0	—	8.0	—	—	—	—	—	—	14.0
Veterinary Diagnostics	—	—	40.0	—	41.0	30.0	29.0	29.0	32.0	32.0	32.0	236.0
Emergency Supplemental for Pathogen Surveillance	—	—	5.0	—	—	—	—	—	—	—	—	5.0
<b>Food Safety and Inspection Service (FSIS)</b>												
Public Health Data Communication Infrastructure System	—	—	15.0	—	13.0	28.0	26.0	26.0	35.0	35.0	35.0	187.0
<b>National Institute of Food and Agriculture (NIFA)</b>												
Regional Diagnostic Network	—	—	10.0	—	10.0	10.0	6.0	6.0	6.0	6.0	6.0	54.0
<b>Office of Homeland Security and Emergency Coordination</b>												
	—	—	1.0	—	1.0	1.0	2.0	1.0	1.0	1.0	2.0	9.0
<b>Total USDA Civilian Biodefense Funding</b>	<b>607.0</b>	<b>247.0</b>	<b>186.0</b>	<b>186.0</b>	<b>215.0</b>	<b>218.0</b>	<b>92.0</b>	<b>84.0</b>	<b>92.0</b>	<b>92.0</b>	<b>94.0</b>	<b>1,927.0</b>

<sup>a</sup>USDA Press and Budget offices were unable to provide numbers for these years.

<sup>b</sup>USDA FY2010 budget did not include any line items specifically for Food and Agricultural Defense; the FY2011 budget continues with the FY2010 revised line items.

Sources: USDA FY2014 Budget Summary and Annual Performance Plan: <http://www.obpa.usda.gov/budsum/FY14budsum.pdf>

Table 7. Environmental Protection Agency Civilian Biodefense Funding, FY2001-FY2014 (in \$ millions)

	FY2001-	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	Totals
	FY2001-								(actual)	(estimate)	(budget)	
Capitol Hill Anthrax Cleanup	20.0	—	—	—	—	—	—	—	—	—	—	20.0
Homeland Security												
Clean and Safe Water <sup>a</sup>	3.8	—	—	—	—	—	—	—	—	—	—	3.8
Waste Management <sup>b</sup>	3.2	—	—	—	—	—	—	—	—	—	—	3.2
Quality Environmental Information <sup>b</sup>	0.6	—	—	—	—	—	—	—	—	—	—	0.6
Sound Science/Improved Understanding/Innovation <sup>b</sup>	0.6	—	—	—	—	—	—	—	—	—	—	0.6
Deterrent to Pollution <sup>b</sup>	3.5	—	—	—	—	—	—	—	—	—	—	3.5
Emergency Supplemental Funds <sup>c</sup>	175.6	—	—	—	—	—	—	—	—	—	—	175.6
Clean and Safe Water: Homeland Security, Critical Infrastructure Protection, Protect Human Health	41.6	—	—	—	—	—	—	—	—	—	—	41.6
Clean Land: Homeland Security Preparedness, Response and Security	64.9	—	—	—	—	—	—	—	—	—	—	64.9
Healthy Communities & EcoSystems												
Homeland Security Prep/Resp/Sec, Chem/Org/Pesticide Risks	3.0	—	—	—	—	—	—	—	—	—	—	3.0
Homeland Security Prep/Resp/Sec, Science and Research	60.0	—	—	—	—	—	—	—	—	—	—	60.0
Compliance and Environmental Stewardship: Homeland Security: Critical Infrastructure Protection, Improve Compliance	8.1	—	—	—	—	—	—	—	—	—	—	8.1
Enabling and Support Programs: Homeland Security												
Office of Waste and Emergency Response	0.6	—	—	—	—	—	—	—	—	—	—	0.6
Office of Administration and Resources Management, Protection of EPA Personnel and Infrastructure	59.3	—	—	—	—	—	—	—	—	—	—	59.3
Office of Environmental Information, Communication and Information	3.8	—	—	—	—	—	—	—	—	—	—	3.8
Office of the Administrator, Communication and Information	0.9	—	—	—	—	—	—	—	—	—	—	0.9
Homeland Security												
Grants to States (formerly Water Safety Grants)	14.5	5.0	5.0	5.0	5.7	5.9	3	0	—	—	—	38.9
Communication and Information	4.3	6.8	6.8	—	—	—	—	—	3.4	4.3	4.0	29.6
Critical Infrastructure Protection	11.2	20.6	30.5	—	—	—	—	—	12.6	12.6	11.5	99.0
Preparedness, Response and Recovery	56.4	76.6	90.6	—	—	—	—	—	67.9	70.7	70.3	432.5
Protection of EPA Personnel and Infrastructure	20.5	20.2	20.3	—	—	—	—	—	12.3	14.9	15.9	104.1
Homeland Security												
Science and Technology (Water Security Initiative, Decontamination, Lab Preparedness and Response, and Safe Buildings)	—	—	—	—	74.9	66.3	59.2	60.6	—	—	—	261.0
Environmental Program and Management ( Decontamination, Critical Infrastructure Protection, and Preparedness Response and Recovery)	—	—	—	—	21.0	23.5	24.6	14.4	—	—	—	83.5
Buildings and Facilities (Protection of EPA Personnel and Infrastructure)	—	—	—	—	8.2	8.1	9.7	8.3	—	—	—	34.3
Hazardous Substance Superfund (including Decontamination, Critical Infrastructure, and Laboratory Preparedness and Response)	—	—	—	—	47.6	58.5	54.0	45.0	—	—	—	205.2
<b>Total EPA Civilian Biodefense Funding</b>	<b>556.2</b>	<b>129.1</b>	<b>153.1</b>	<b>157.4</b>	<b>162.3</b>	<b>150.4</b>	<b>128.3</b>	<b>102.5</b>	<b>96.2</b>	<b>101.7</b>	<b>1,737.3</b>	

<sup>a</sup>Numbers for additional years are included in other line items, such as Clean Land.

<sup>b</sup>Due to EPA reorganization, these activities fell under new headings beginning in FY2003.

<sup>c</sup>This bill includes a number of relevant line items, but a precise breakdown that accounts for all \$175 million could not be found. Sources: EPA FY 2014 Budget in Brief: <http://www2.epa.gov/planandbudget/fy2014#budget>. Pp. 21, 89-98.

Table 8. Department of Commerce Civilian Biodefense Funding, FY2001-FY2014 (in \$millions)

	FY2001-	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014
									(actual)	(estimate)	(budget)
											Totals
<b>Department of Commerce Prevention Funding</b>											
Bureau of Industry and Security (formerly Bureau of Export Administration)	357.0	75.0	76.3	76.3	85.3	100.3	102.9	101.0	101.0	101.6	112.1
<b>Total Department of Commerce Civilian Biodefense Funding</b>	<b>357.0</b>	<b>75.0</b>	<b>76.3</b>	<b>76.3</b>	<b>85.3</b>	<b>100.3</b>	<b>102.9</b>	<b>101.0</b>	<b>101.0</b>	<b>101.6</b>	<b>112.1</b>

Sources: The Department of Commerce Budget in Brief FY2014: <http://www.osce.doc.gov/bmi/budget/FY14BIB/ENTIREBIB.pdf>

Table 9. Department of State Civilian Biodefense Funding, FY2001-FY2014 (in \$millions)

	FY2001-	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014
									(actual)	(estimate)	(budget)
											Totals
Worldwide Security Upgrades: Chem/Bio Program <sup>a</sup>	57.1	19.0	10.8	—	—	—	—	—	—	—	86.9
BioRedirection <sup>b</sup>	169.0	—	—	—	—	—	—	—	—	—	169.0
<b>Bureau of Arms Control, Verification, and Compliance</b>											
Office of Biological Weapons Affairs <sup>c</sup>	—	0.8	1.2	1.5	1.7	1.8	0	—	—	—	6.9
Office of Chemical and Biological Weapons Affairs	—	—	—	—	—	0	2.3	2.1	2.1	2.1	8.7
<b>Bureau of International Security and Nonproliferation</b>											
Global Threat Reduction <sup>d,e</sup>	50.1	52.1	51.4	56.9	62.0	70.0	70.0	69.0	69.0	69.0 <sup>f</sup>	545.0
Chemical and Biological Weapons Threat Reduction	—	2.4	1.7	2.2	2.4	2.3	—	—	—	—	10.9
Missile, Biological and Chemical Nonproliferation	—	—	—	—	—	—	2.0	2.1	2.1	2.1	8.3
<b>Total Department of State Civilian Biodefense Funding</b>	<b>276.2</b>	<b>74.3</b>	<b>65.1</b>	<b>60.6</b>	<b>66.1</b>	<b>74.0</b>	<b>74.3</b>	<b>73.2</b>	<b>73.2</b>	<b>73.2</b>	<b>67.8</b>

<sup>a</sup>The Chem/Bio Worldwide Security Upgrades line item was folded into the Physical Security/Protective Equipment Worldwide Security Upgrades. Therefore, specific numbers for Chem/Bio are no longer available.

<sup>b</sup>The BioRedirection program was subsumed under the Nonproliferation of WMD Expertise item in 2005.

<sup>c</sup>Information on funding for this office is not available from the Department of State prior to FY2006.

<sup>d</sup>Nonproliferation of WMD Expertise was renamed the Global Threat Reduction Program beginning in FY2008.

<sup>e</sup>The Biosecurity Engagement Program (BEP) budgets could not be confirmed by the State Department, so they were not included in this analysis.

<sup>f</sup>Estimated amounts based on previous year's funding.

Sources: U.S. Department of State FY2014 Congressional Budget Justification: <http://www.state.gov/documents/organization/207266.pdf>, Pg. 137, 305; U.S. Department of State FY2014 Function 150 and Other International Programs: <http://www.state.gov/documents/organization/207305.pdf>, Pg. 168.

Table 10. National Science Foundation Civilian Biodefense Funding, FY2001-FY2014 (in \$millions)

	FY2001-														Totals
	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	(actual)	(estimate)	(budget)	FY2014	
Homeland Security Activities: Research to Combat Bioterrorism															
Ecology of Infectious Diseases, BIO Directorate	22.1	6.0	6.0	—	—	—	—	—	—	—	—	—	—	—	34.1
Ecology of Infectious Diseases, GEO Directorate	12.0	4.0	4.0	—	—	—	—	—	—	—	—	—	—	—	20.0
Microbial Genomics, Analysis and Modeling, BIO Directorate	49.8	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	184.8
Microbial Genome Sequencing, Formerly CISE	6.0	2.0	1.9	—	—	—	—	—	—	—	—	—	—	—	9.9
Sensors and Sensor Networks, Engineering Directorate	12.3	4.3	—	—	—	—	—	—	—	—	—	—	—	—	16.5
<b>Total NSF Civilian Biodefense Funding</b>	<b>102.2</b>	<b>31.3</b>	<b>26.9</b>	<b>15.0</b>	<b>15.0</b>	<b>15.0</b>	<b>15.0</b>	<b>15.0</b>	<b>15.0</b>	<b>15.0</b>	<b>15.0</b>	<b>15.0</b>	<b>15.0</b>	<b>15.0</b>	<b>265.4</b>

Sources: NSF FY2014 Homeland Security Activities Budget Request: [http://www.nsf.gov/about/budget/fy2014/pdf/09\\_fy2014.pdf](http://www.nsf.gov/about/budget/fy2014/pdf/09_fy2014.pdf).

Table 11. Department of Veterans Affairs Civilian Biodefense Funding, FY2006-FY2014 (in \$millions)

	FY2001-														Totals <sup>b</sup>
	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	(actual)	(estimate)	(budget)	FY2014	
Emerging Pathogens/Bio-Terrorism <sup>a</sup>	—	0.3	0.3	0.3	1.3	1.0	1.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7	6.6
<b>Total Department of Veterans Affairs Civilian Biodefense Funding</b>	<b>—</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>1.3</b>	<b>1.0</b>	<b>1.3</b>	<b>0.7</b>	<b>0.7</b>	<b>0.7</b>	<b>0.7</b>	<b>0.7</b>	<b>0.7</b>	<b>0.7</b>	<b>6.6</b>

<sup>a</sup>For budget numbers from FY2006-FY2013, see Medical Programs and Information Technology. <http://www.va.gov/budget/products.asp>.

<sup>b</sup>Totals do not include funding prior to FY2006.

Sources: Department of Veterans Affairs Volume II Congressional Submission FY2014 Funding and FY 2015 Advance Appropriations Request. [http://www.va.gov/budget/docs/summary/Fy2014\\_Volume\\_II-Medical\\_Programs\\_Information\\_Technology.pdf](http://www.va.gov/budget/docs/summary/Fy2014_Volume_II-Medical_Programs_Information_Technology.pdf). Pg. 3A-25



S&T biodefense funds and in overall DHS biodefense funds are the result of proposed laboratory construction. Funding for construction of the NBAF is proposed at \$714 million, while funding to update and maintain the Plum Island Animal Disease Center is proposed at \$29.3 million.<sup>19</sup>

### *Department of Agriculture*

The USDA's FY2014 budget request includes \$94 million for its biodefense-related programs, a slight increase from FY2013 estimated levels (Table 6).<sup>22</sup> The USDA's biodefense activities are included under the Animal and Plant Health Inspection Service (APHIS), the Food Safety Inspection Service (FSIS), the National Institute of Food and Agriculture (NIFA), and the Office of Homeland Security and Emergency Coordination.

Significant funding for USDA's biodefense activities includes \$19 million for Emergency Management in APHIS, which includes a \$2 million contingency fund to enable outbreak response, and \$32 million for Veterinary Diagnostics. Similar to FY2013 estimated amounts, \$35 million is proposed for the Public Health Data Communications Infrastructure System in FSIS, and \$6 million is proposed for HIFA's Regional Diagnostic Network. Additionally, under the FY2014 budget, funding for the Office of Homeland Security and Emergency Coordination would increase by \$1 million to \$2 million.

### *Environmental Protection Agency*

The proposed 2014 biodefense budget for EPA shows a small reduction to \$101.7 million for its biodefense-related programs (Table 7).<sup>23</sup> These programs are concentrated under the Homeland Security heading for EPA, and include \$4 million for communication and information; \$11.5 million for critical infrastructure protection; \$70.3 million for preparedness, response, and recovery; and \$15.9 million for personnel and infrastructure protection.

### *Department of Commerce*

The US Department of Commerce's FY2014 budget request includes \$112 million for its biodefense-related program, the Bureau of Industry and Security (BIS) (Table 8).<sup>24</sup> BIS is the entity responsible for enforcing the nation's export laws, which are intended to limit the spread of potentially dangerous dual-use technologies. The current budget request is a \$10.5 million increase over the FY2013 estimate.

### *Department of State*

The FY2014 budget request for the US Department of State includes \$67.8 million for its civilian biodefense-related programs, a \$5.4 million decrease from actual FY2012 funding levels (estimated FY2013 levels are

unconfirmed) (Table 9).<sup>25,26</sup> Biodefense programs at the State Department are housed in the Bureau of Arms Control, Verification, and Compliance and in the Bureau of International Security and Nonproliferation. Specific line items for civilian biodefense include requests for the Office of Chemical and Biological Weapons Affairs (\$2.2 million), the Global Threat Reduction program (\$63.5 million), and Biological and Chemical Nonproliferation (\$2.1 million).

### *National Science Foundation*

The National Science Foundation's FY2014 budget request includes \$15 million for its biodefense-related activities, a funding level on par with recent years (Table 10).<sup>27</sup> The sole program with a biodefense mission is Microbial Genomics, Analysis and Modeling in the NSF BIO directorate.

### *Department of Veterans Affairs*

For FY2014, the US Department of Veterans Affairs (VA) budgeted \$700,000 for its civilian biodefense-related activities, level with the past 2 years (Table 11). The sole biodefense program in the VA is the Emerging Pathogens/Bio-Terrorism line item. This program is new to the analysis this year, and funding since FY2006 has been included. Previous funding information for this program was unavailable.<sup>28</sup>

## CONCLUSION

The President's FY2014 budget requests \$6.69 billion for civilian biodefense. This request represents an increase in requested funds over estimated FY2013 levels. The majority of the "biodefense" programs included in the FY2014 budget are intended not only to improve biodefense, but also to improve preparedness and response more broadly. Of the FY2014 funds budgeted for civilian biodefense, \$5.86 billion (88%) is budgeted for programs with both biodefense and nonbiodefense goals and applications, and \$835 million (12%) is budgeted for programs that have objectives solely related to biodefense (Figure 2).

HHS would receive the largest proportion of biodefense funding (61%), followed by DoD (17%), DHS (16%), Commerce (2%), EPA (2%), USDA (1%), State (1%), NSF (<1%), and VA (<1%). Many of these agencies would receive increased funding above estimated FY2013 levels. The largest increase in funding would go to DHS, while smaller increases would be provided for DoD, HHS, Commerce, and USDA. The State Department and the EPA would receive decreases in biodefense funding, while the NSF and VA would maintain flat funding (Figure 3).

It should be noted that estimated levels from FY2013 are uncertain due to Continuing Resolutions and the

Sequestration process. Although the analysis shows an increase in proposed FY2014 levels of funding compared to estimated FY2013 levels, there is still significant uncertainty about appropriations totals for FY2013.

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