

BRIEFER

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KEY BIODEFENSE ELEMENTS IN THE FY2024 PRESIDENT'S BUDGET REQUEST

By Arushi Gupta, Rhys Dubin, and Lillian Parr

Edited by John Moulton, Christine Parthemore, and Andy Weber

On March 9, 2023, the Biden Administration released its Fiscal Year 2024 President's Budget Request, which has since been followed by reviews of specific agency requests by Congressional committees, and various testimonies from senior administration leaders on the specifics of each agency's proposed budget. A critically important part of this budget request revolves around biosecurity and biodefense—funding that will have an outsized impact on U.S. national security, public health, and the economy. Understanding where and how the administration proposes to invest in this space is of the utmost importance, and of significant public interest.

To that end, this brief and forthcoming analyses of the federal biodefense budget by the Nolan Center of the Council on Strategic Risks aims to understand and describe how the U.S. government allocates funding for this vital—yet often overlooked—element of security policy. The hope is that by providing an unprecedented and highly granular analysis of trends in biodefense spending, Congressional leaders, administration officials, and the general public might come to better understand the importance this spending offers to both the United States and the world at large.

Throughout the following sections, this brief will highlight biodefense and biosecurity spending across several notable federal agencies—in descending order of overall spending.

DEPARTMENT OF HEALTH AND HUMAN SERVICES

The Department of Health and Human Services (HHS) occupies a central role in U.S. efforts to address biological risks. Between the Centers for Disease Control and Prevention (CDC), the Administration for Strategic Preparedness and Response (ASPR), and other offices/agencies, HHS handles a significant set of biosecurity and public-health responsibilities. Although HHS's role is much broader than biosecurity, biodefense, and preventing high-risk infectious disease outbreaks, this briefer will focus primarily on those activities. Some of the most important advances in FY2024 include the following.

ADVANCED RESEARCH PROJECTS AGENCY FOR HEALTH

The new Advanced Research Projects Agency for Health (ARPA-H), launched in 2022, is set to receive \$2.5 billion—a \$1 billion baseline increase from what Congress appropriated for fiscal year 2023.¹ Modeled after the Pentagon's Defense Advanced Research Projects Agency (DARPA), ARPA-H was designed to develop breakthrough technologies for medicine and public health by providing term-limited expert program managers with significant trust and autonomy. The inaugural director, Dr. Renee Wegrzyn, and other staff have prior experience with a variety of technologies relevant to biosecurity and prevention of pandemic-level infectious disease events. The Nolan Center hopes to see that reflected in ARPA-H's research portfolio as it develops.² In its 2021 Handbook for Ending Catastrophic Biological Risks, the Nolan Center also recommended that the agency allocate at least \$900 million to biodefense-relevant research in FY2024 and increase that number to \$1 billion by FY2025.³

PUBLIC HEALTH EMERGENCY FUND

The FY2024 budget also calls for a brand new \$50 million funding line to the Public Health Emergency Fund (PHEF).⁴ This appropriation could be used by all HHS agencies in case of a declared public health emergency. Congress has never designated annual funding for PHEF, nor has the fund received any appropriations in decades. In fact, it has only received appropriations twice—once in 1987 in response to the HIV/AIDS epidemic

1 U.S. Department of Health and Human Services, *Operating Division Budget Requests: Administration for Strategic Preparedness and Response*, March 2023.

2 Bryan Walsh, "DARPA changed technology. Now Renee Wegrzyn wants to bring the same innovation to medicine," Vox, October 20, 2022.

3 William Beaver, Yong-Bee Lim, Lillian Parr, Christine Parthemore, Andrew Weber. *A Handbook for Ending Catastrophic Biological Risks*, The Janne E. Nolan Center on Strategic Weapons, an institute of the Council on Strategic Risks, December 2021.

4 U.S. Department of Health and Human Services, *Office of the Secretary Staff Divisions: Public Health and Social Services Emergency Fund*, March 2023.

and again in 1993 to respond to a hantavirus outbreak.⁵ HHS argues that the fund is a vital public health tool and that an annual appropriation would allow the agency to respond rapidly to a public health emergency.

CENTERS FOR DISEASE CONTROL AND PREVENTION

The CDC requested \$340 million for its Public Health Data Modernization Initiative—almost double the \$175 million that Congress appropriated last year.⁶ CDC launched this initiative in 2020 to address weaknesses in public health data systems exposed by COVID-19. The program is also seeking additional funding to continue updating technical systems, decrease public health data reporting lags, understand early warning signals, and more. This is crucial work: the COVID-19 pandemic revealed that a lack of data and an inability to manage information in ways that help policymakers clearly understand risks can seriously hinder an effective response effort.⁷

The CDC also requested \$100 million for the new Center for Forecasting and Outbreak Analytics (CFA)—double the \$50M enacted last year—to meet operating budget needs.⁸ The CFA launched in April 2022 to provide advanced analytics and modeling tools to U.S. government agencies and other partners with the aim of enabling timely, data-informed decision making during disease outbreaks. It has already begun to prove its value. During the 2022 mpox outbreak, for instance, CFA played a central role in tracking and monitoring cases—helping local public health departments forecast the outbreak’s trajectory.⁹ It filled a similar niche in response to the Omicron COVID-19 variant; when cases first began to emerge in South Africa, CFA was able to quickly assess the situation and provide clear information to senior leaders.¹⁰

ADMINISTRATION FOR STRATEGIC PREPAREDNESS AND RESPONSE

The Administration for Strategic Preparedness and Response (ASPR) is tasked with preventing, preparing for, and responding to public health emergencies and disasters. Given its new status as an independent operating division within HHS, ASPR’s proposed FY2024 budget is substantially larger than last year. The budget:

5 Ibid

6 U.S. Department of Health and Human Services, *Operating Division Budget Requests: Centers for Disease Control and Prevention*, March 2023.

7 Natasha E. Bajema, William Beaver, Christine Parthemore, *Toward a Global Pathogen Early Warning System: Building on the Landscape of Biosurveillance Today*, The Janne E. Nolan Center on Strategic Weapons, an institute of the Council on Strategic Risks, July 2021.

8 Ibid

9 Centers for Disease Control and Prevention, *CFA 2023 Annual Report: Implementations and Accomplishments Update*, February 2023.

10 Meredith Wadman, *Chief of CDC’s “weather service” strives to help local health agencies use infectious disease forecasting*, *Science*, June 2023

- Renews most program funding.
- Requests \$995 million (+\$30 million over last year) for the Strategic National Stockpile, the United States' repository of antibiotics, vaccines, medical equipment, and other critical countermeasures.
- Requests \$130 million (+\$33 million over last year) for the National Disaster Medical System—the organization tasked with surging personnel, equipment, and supplies to disaster zones—to hire and train medical disaster responders.
- Requests \$375 million (+\$47 million over last year) for pandemic influenza preparedness to maintain current response capabilities and develop next generation medical countermeasures.¹¹

ASPR also requested \$1 billion for the Biomedical Advanced Research and Development Authority (BARDA)—\$50 million more than last year's baseline appropriation. This expanded funding will support BARDA in developing tools effective against multiple pathogens, as well as platforms that developers can use to produce vaccines, therapeutics, diagnostics, and other medical countermeasures against a variety of diseases.¹² These flexible tools are essential to ensuring that the United States has the means to counter all natural, accidental, or deliberate threats—especially as new technology expands the range of potential risks.

The FY2024 budget also proposes \$400 million in new discretionary funding for BARDA/ASPR's pandemic and biodefense preparedness efforts. The department would use these appropriations to significantly accelerate the availability of medical countermeasures upon identification of an emerging pathogen. Such tools could include next-generation vaccines, therapeutics and diagnostics, and support for critical medical countermeasures and supplies.¹³

MANDATORY FUNDING FOR PANDEMIC PREPAREDNESS

The largest new component of HHS's budget is a \$20 billion increase in mandatory spending on pandemic preparedness. In contrast to discretionary funding (which must be voted on every year), mandatory funds are automatically appropriated each year and remain in place indefinitely unless Congress passes new legislation. Other examples of mandatory spending include significant national entitlement programs such as Medicare and Medicaid.

The HHS-wide request through the Public Health and Social Services Emergency Fund is part of a follow-up to last year's \$81.7 billion proposal, which Congress did not fund. Of this new \$20 billion, \$10.54 billion would go to ASPR, \$2.69 billion to the National Institutes of Health (NIH), \$6.1 billion to CDC, and \$670

¹¹ U.S. Department of Health and Human Services, *Operating Division Budget Requests: Administration for Strategic Preparedness and Response*, March 2023.

¹² Ibid

¹³ Ibid

million to the Food and Drug Administration (FDA).¹⁴ Some of the most important investments this would fund are listed below, including a variety of new technologies that could dramatically improve the United States' ability to detect and stop high-risk infectious diseases:

- ASPR (\$10.54 billion): drive the development of pathogen-agnostic next-generation sequencing (NGS)-based diagnostics and support late-stage development and manufacturing of vaccines, broad-spectrum antivirals, host-directed therapeutics, and rapid response therapeutic platform technologies.
- CDC (\$6.1 billion): modernize detection infrastructure, improve early warning systems such as wastewater surveillance, and strengthen the U.S. public health laboratory system. These efforts would include adding thousands of wastewater testing sites across the country and incorporating metagenomic wastewater sequencing into nationwide surveillance efforts.
- NIH (\$2.69 billion): support the Rapid Acceleration of Diagnostics (RADx) Initiative to accelerate the design, validation, regulatory authorization, and manufacture of laboratory and point-of-care/over the counter tests.¹⁵ Funding would also support early-stage discovery, design, and development efforts for vaccines and vaccine platforms, therapeutics, and adjuvants.
- FDA (\$670 million): build the regulatory capacity needed to support the activities of ASPR, CDC, and NIH listed above.

DEPARTMENT OF DEFENSE

After HHS, the Department of Defense (DoD) has the largest biosecurity and biodefense budget in the federal government. Although the Pentagon has historically played an extremely important role in addressing biological threats, DoD's efforts are just beginning to recover from years of slashed investments. This downward trend continued even as COVID-19 curtailed military readiness and demonstrated the dangers of biological events. DoD spending on biological threats makes up just a fraction of the agency's budget; however, this spending provides outsized dividends and has excellent return on investment.

Increasing spending will be essential to keep up with the threat environment. It is clear DoD is making great strides, but investments are not yet reaching the level that the Nolan Center recommends: an average of \$10 billion per year over the next ten years.¹⁶ While this growth may sound high, it would still bring biodefense investments up to just around 1% of the DoD budget. Increasing funding for addressing biological threats will help support urgent needs in biodefense, such as establishing pathogen early warning systems on military bases

¹⁴ U.S. Department of Health and Human Services, *Office of the Secretary Staff Divisions: Public Health and Social Services Emergency Fund*, March 2023.

¹⁵ Daniel Regan, *Event Summary: RADx Initiative and COVID-19 Solutions*, Council on Strategic Risks, June 2022

¹⁶ William Beaver, Yong-Bee Lim, Lillian Parr, Christine Parthemore, Andrew Weber. *A Handbook for Ending Catastrophic Biological Risks*, Council on Strategic Risks, December 2021.

in the United States and abroad.¹⁷ Furthermore, allocating resources to support priorities in the forthcoming Biodefense Posture Review—a first-of-its-kind roadmap of DoD’s approach to biodefense—will be instrumental in improving the nation’s capacity to prepare for and prevent biological threats.¹⁸

CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM (CBDP)

The Chemical and Biological Defense Program is at the heart of the DoD’s biosecurity and biodefense efforts and functions as the department’s largest funder of relevant activities. This year, CBDP requested \$1.398 billion for research, development, testing, and evaluation.¹⁹ It is difficult to estimate the exact proportion of these dollars that will be spent on addressing biological threats, as many programs incorporate both chemical and biological issue sets. However, about 65% of the requested funding will go towards programs that focus at least in part on biological risks.²⁰ This funding features a noticeable uptick in early-stage research.

Although there are a number of changes in CBDP procurement this year, one of the most notable is a new \$60 million request to procure non-medical personal protective equipment (PPE) such as N95 respirators, barrier masks, and hand sanitizer for combat units. Currently, these units only keep enough PPE on hand for 30 days of operations. This new funding would allow them to maintain a 90-day supply.²¹

DEFENSE ADVANCED RESEARCH PROJECTS AGENCY

The Defense Advanced Research Projects Agency (DARPA) is the home to some of the most innovative research in the federal government. The agency, for example, played a key role in developing the mRNA platform technologies that were put into play to rapidly create COVID-19 vaccines.²² DARPA also functions as a major funder of biosecurity-related research in DoD. Concerningly, however, the agency appears to be pulling back on much of this research.²³

17 Rhys Dubin, Rassin Lababidi, John Moulton, Harshini Mukundan, Lillian Parr, Christine Parthemore, Saskia Popescu, and Daniel P. Regan, *Pathogen Early Warning: A Progress Report & Path Forward*, Council on Strategic Risks, December 2022.

18 U.S. Secretary of Defense, “Biodefense Vision,” November 1, 2021.

19 U.S. Department of Defense, *Chemical and Biological Defense Program Defense-Wide Justification Book, Volume 4 of 5: Research, Development, Test & Evaluation, Defense-Wide*, March 2023.

20 According to internal CSR analysis.

21 U.S. Department of Defense, *Chemical and Biological Defense Program Defense-Wide Justification Book, Volume 1 of 2: Procurement, Defense-Wide*, March 2023.

22 Defense Advanced Research Projects Agency, “ADEPT-PROTECT.”

23 U.S. Department of Defense, *Defense Advanced Research Projects Agency: Research, Development, Test & Evaluation, Defense-Wide*, March 2023.

The FY2024 budget ends a variety of biosecurity-related research projects, including Biology for Security (BIOSEC), Preventing the Emergence of Disease (PED), Outpacing Infectious Disease, Defense Against Mass Terror Threats, and Early Battlefield Interventions.²⁴ These programs had a total budget of \$53 million last year and DARPA designated all of them as “complete.” Their funding will end in FY2024²⁵ and BIOSEC’s technology will be transferred to other agencies. For BIOSEC, this transition will hopefully lead to the development of new tools that the department can procure—as is the goal of DARPA projects. The research under Outpacing Infectious Diseases will be incorporated into the Assessing Immune Memory program. The fate of other programs, however, remains unclear based on public information. Congress’s oversight role will be important for understanding the situation.

Two other research programs—Preemptive Expression of Protective Alleles (PREPARE) and Gene Editor Enabled Diagnostics & Biosurveillance will continue, but both face significant budget cuts as they move into new stages of implementation and testing. The only biosecurity-related program to see a funding increase is Deployable Medical Countermeasures for Warfighter Readiness, which would receive \$27 million, a roughly \$7 million bump from what was appropriated last year.²⁶

DEFENSE THREAT REDUCTION AGENCY

The Defense Threat Reduction Agency (DTRA) is one of the nation’s main agencies for addressing weapons of mass destruction (WMD) and emerging threats. Its activities range from conducting early-stage research to providing operational guidance.

One of DTRA’s primary operational programs, WMD Combat Support and Operations, is seeking a baseline increase of \$44 million over last year’s appropriation, bringing its total budget to \$672 million. DTRA also proposed a modest \$20 million increase across the Countering WMD Applied Research and Countering WMD Advanced Technology Development programs, which encompass multiple types of WMD, so it is difficult to determine how much of the increased funding will be directed to countering biological weapons.²⁷

COOPERATIVE THREAT REDUCTION PROGRAM

DTRA also operates the Nunn-Lugar Cooperative Threat Reduction (CTR) Program. CTR’s biological threat-focused arm has seen years of major cuts to its international capacity-building and cooperation work, despite its historical importance in expanding infectious disease early warning, enhancing biosecurity and biosafety in high-risk regions, and more.

²⁴ Ibid

²⁵ Ibid

²⁶ Ibid

²⁷ U.S. Department of Defense, *Defense Threat Reduction Agency*, March 2023.

The CTR program works cooperatively with 35 partner governments to reduce threats from WMD. The Biological Threat Reduction Program constitutes the majority of CTR’s budget and is a key element of DoD biosecurity efforts. The program works worldwide on a huge variety of projects— everything from helping a consortium of Central Asian states develop effective biosurveillance networks to providing biosafety training to laboratory scientists in east Africa.²⁸ The FY2024 budget, however, reduces BTRP’s budget by nearly \$7 million from \$235 million to just over \$228 million.²⁹ The budget may be decreasing due to a pause on work in both Ukraine and Ethiopia, given ongoing conflicts in both countries. Nonetheless, this trend is concerning.

Reductions in the program now would be a strategic mistake. As Nolan Center experts noted in the 2021 Handbook for Ending Catastrophic Biological Threats, “It is in the strategic interest of the United States to be the most attractive partner for countries seeking cooperation and support in enhancing their capacities to mitigate biological threats. If the United States does not play this role, other countries will likely do so, including Russia and China.”³⁰ Separately, BTRP is well-placed to play a central role in expanding global early warning capacity and cooperatively reducing the risks posed by high-containment labs worldwide. Without funding, these crucial functions would fall by the wayside. For these reasons, the Nolan Center has called for the department to increase the program’s annual budget to \$400 million.³¹

Baseline funding for other relevant CTR programs, including the Strategic Offensive Arms Elimination and the WMD Proliferation Prevention Program, remains constant from FY2023.³² With inflation, this amounts to a significant budget cut.

OTHER DEPARTMENTS

Although HHS and DoD are the two biggest biosecurity spenders, many other departments also have an important role to play in national biosecurity efforts. Some important highlights include the below.

DEPARTMENT OF STATE

The Department of State (State) makes essential contributions to biosecurity through maintaining international relationships and providing partner nations the resources necessary to detect and mitigate biological threats. State also leads U.S. engagement for implementing the Biological Weapons Convention and other important

28 Assistance Support Initiative, *Biological Threat Reduction Program (BTRP)*, Stimson Center, July 2023

29 U.S. Department of Defense, *Cooperative Threat Reduction Program*, March 2023.

30 William Beaver, Yong-Bee Lim, Lillian Parr, Christine Parthemore, Andrew Weber. *A Handbook for Ending Catastrophic Biological Risks*, Council on Strategic Risks, December 2021.

31 Ibid.

32 U.S. Department of Defense, *Cooperative Threat Reduction Program*, March 2023.

international forums and provides aid for health systems in low-income countries. The following analysis focuses on several programs central to global health security and preventing high-impact biological disasters.

This year, State requested a doubling in funding for the Nonproliferation and Disarmament Fund (which negotiates and implements projects to destroy, secure, and prevent the proliferation of WMD and related materials) to \$20 million, and an increase of \$5.5 million each for the Global Threat Reduction Program and Export Control and Related Border Security Program (which enforces export controls on biological agents of concern).³³

Other notable changes between the FY2023 and FY2024 requests include a \$500 million request for the global Pandemic Fund—double its ask from last year. The Pandemic Fund, administered by the World Bank, has received a mere \$1.6 billion since its inception last year, far less than the \$10 billion or more each year recommended by the World Health Organization (WHO) and other international organizations.³⁴ U.S. support will be critical if the Pandemic Fund is to deliver on its goal of helping low-income countries fill gaps in their health security efforts. Success here will be important for preventing future disease outbreaks and rebuilding global trust in the United States and international institutions in the wake of an inequity-plagued COVID-19 response.³⁵

After a substantial baseline appropriation increase in FY2022, the USAID Global Health Security budget has remained steady at \$745 million. These funds are dedicated to improving health security in more than 50 countries. Some biosecurity-relevant activities include programs to strengthen laboratory and surveillance capacity, efforts to understand the dynamics of human-animal spillover, and projects designed to improve risk communication around infectious diseases at a local, national, and regional level.³⁶

DEPARTMENT OF HOMELAND SECURITY

The Department of Homeland Security (DHS) also plays several roles in U.S. biodefense efforts, with a particular focus on domestic detection and response efforts. In FY2024, the department requested \$104.7 million for its Biological Support program (up \$20 million from the baseline \$84.9 million that was appropriated in FY2023) to provide early warning of biological threats and operational support for local governments across the United States.³⁷ DHS's Food, Agriculture, and Veterinary Defense program also sought a significant funding increase, from \$2.8 million appropriated in FY2023 to \$13 million. This money is meant to help develop next-generation vaccines, diagnostics, and other tools needed to respond to infectious diseases and pests that threaten the U.S. food supply.³⁸

³³ U.S. Department of State, *Foreign Operations, Appendix 2*, March 2023.

³⁴ Kaiser Family Foundation, *The New Pandemic Fund: Overview and Key Issues for the U.S.*, May 30, 2023

³⁵ U.S. Department of State, *Department of State, Foreign Operations and Related Programs*, March 2023.

³⁶ Ibid

³⁷ U.S. Department of Homeland Security, *Countering Weapons of Mass Destruction: Budget Overview*, April 2023

³⁸ U.S. Department of Homeland Security, *Science and Technology Directorate: Budget Overview*, April 2023.

One of the most notable projects run by DHS is the Biological Detection for the 21st Century program (BD21), an effort to modernize the two-decade old BioWatch system. With BD21 scheduled to complete its research and development cycle at the end of 2024, the program is set to lose much of its funding. Overall, DHS requested \$6.7 million this year for BD21 research and development, \$3.8 million for the Urban Security Initiative, and \$2.85 million for Chem-Bio Threat Surveillance & Detection, all intended to test and prepare BD21 for deployment.³⁹

DEPARTMENT OF AGRICULTURE

The Department of Agriculture (USDA) plays a central role in detecting and mitigating biological threats to livestock and crops, including naturally-emerging disease outbreaks and deliberate attacks that could threaten food security. USDA's work on monitoring and countering animal pathogens that have the potential for human spillover and the agency's role in co-leading the Federal Select Agent Program are particularly noteworthy.

Although most relevant USDA programs requested funding similar to last year's enacted amounts, the National Bio and Agro-Defense Facility (NBAF) is seeking an increase in its operations and maintenance budget—from \$112 million appropriated last year to \$126 million. NBAF is a biosafety level-4 research laboratory focused on combating diseases that threaten public health and agricultural security. USDA and DHS completed construction on NBAF in 2022 and the facility officially opened in May 2023,⁴⁰ so this funding will be instrumental in ensuring that the biocontainment facility has the tools necessary to conduct safe and secure research on high-consequence animal diseases. USDA also requested a roughly \$9 million increase in the Agricultural Research Service's livestock protection program, which works to improve livestock disease detection, prevention, control, and treatment methods.⁴¹

ENVIRONMENTAL PROTECTION AGENCY

The Environmental Protection Agency (EPA) is seeking significant increases in two biosecurity-relevant programs. The Homeland Security: Preparedness, Response, and Recovery project within the Science and Technology program would go from \$25.3 million to \$39.5 million, and the same project within the Hazardous Substance Superfund would go from \$34.6 million to \$56.5 million. These programs conduct research on biothreat decontamination methods and disposable PPE and work with other departments on

39 U.S. Department of Homeland Security, *Countering Weapons of Mass Destruction: Budget Overview*, April 2023.

40 U.S. Department of Agriculture, *USDA, DHS Cut Ribbon on National Bio and Agro-Defense Facility*, May 2023

41 U.S. Department of Agriculture, *Fiscal Year 2024 Budget Summary*, March 2023.

CBRN preparedness.⁴² The EPA is also seeking a \$7 million increase for Safe and Sustainable Water Resources, which, among other functions, works to identify biological contaminants in drinking water and works with the CDC to develop methodologies for wastewater surveillance.⁴³

CONCLUSION

Although the budgets discussed in this brief are unlikely to correspond precisely with the bill Congress passes at the end of the fiscal year, presidential requests provide a useful picture of an administration's priorities. Spending on biosecurity makes up a small sliver of the proposed budget, but these investments need to rise, and it is promising to see the U.S. government allocating resources toward innovative new programs for pandemic preparedness and prevention.

Finally, biosecurity is a highly complex and interdisciplinary issue that requires input from a diverse group of agencies—not all of which were covered by this overview. For a more granular look at the biodefense budget, the Nolan Center plans to publish a full breakdown of past spending and current funding requests from across the interagency later in 2023, and provide open tools and analysis to track trends over time.

ABOUT THE AUTHORS

Arushi Gupta was a Visiting Fellow with the Janne E. Nolan Center on Strategic Weapons at the Council on Strategic Risks. She is currently a Technology Policy Fellow in the Office of Representative Anna Eshoo (CA-16).

Rhys Dubin is a Visiting Fellow with the Janne E. Nolan Center on Strategic Weapons at the Council on Strategic Risks.

Lillian Parr is a Research Fellow with the Janne E. Nolan Center on Strategic Weapons at the Council on Strategic Risks.

⁴² U.S. Environmental Protection Agency, *Fiscal Year 2024: Justification of Appropriation Estimates for the Committee on Appropriations*, March 2023.

⁴³ Ibid.

APPENDIX: BUDGET TABLE

The table below lists programs mentioned in this brief, comparing FY2024 requested spending to FY23 enacted spending. Please note that funding requests are generally higher than what is ultimately enacted, and what will be ultimately enacted in 2024 will likely be less than what has been requested for many programs. Additionally, for several of these programs, only a portion will be spent on biosecurity, infectious disease threats, and biodefense.

	Program Name	FY23 Baseline Enacted Funds	FY24 President's Budget Request	Change
	<i>All figures in millions</i>			
Health and Human Services	ARPA-H	\$1,500	\$2,500	+\$1,000
	HHS: Public Health Emergency Fund	N/A	\$50	+\$50
	CDC: Public Health Data Modernization Initiative	\$175	\$340	+\$165
	CDC: Center for Forecasting and Outbreak Analytics	\$50	\$100	+\$50
	ASPR: Strategic National Stockpile	\$965	\$995	+\$30
	ASPR: National Disaster Medical System	\$97	\$130	+\$33
	ASPR: Pandemic Influenza Preparedness	\$328	\$375	+\$47
	ASPR: Biomedical Advanced Research and Development	\$950	\$1,000	+\$50
	ASPR: Pandemic and Biodefense Preparedness	N/A	\$400	+\$400
	HHS: Public Health and Social Services Emergency Fund (Mandatory Funding across NIH, FDA, CDC, and ASPR)	\$0	\$20,000	+\$20,000
Defense	CBDP: Research, Development, Testing, and Evaluation	\$1,325	\$1,398	+\$73
	CBDP: Procurement of Non Medical Personal Protective Equipment	N/A	\$60	+\$60
	DARPA: Preemptive Expression of Protective Alleles	\$9.2	\$3.2	-\$6
	DARPA: Gene Editor Enabled Diagnostics & Biosurveillance	\$18	\$12	-\$6
	DARPA: Deployable Medical Countermeasures for Warfighter Readiness	\$20	\$27	+\$7
	DTRA: WMD Combat Support and Operations	\$628	\$672	+\$44
	DTRA: Counter WMD Technologies and Capabilities Development Applied Research	\$30.28	\$30.87	+\$0.6
	DTRA: CWMD Technologies and Capabilities Development Advanced Technology Development	\$246.95	\$254.60	+\$7.65
	DTRA: CWMD Cross-Cutting Technical and Information Sciences Applied Research	\$32.14	\$37.22	+\$5.08
	DTRA: CWMD Cross-Cutting Technical and Information Sciences Advanced Technology Development	\$78.99	\$86.42	+\$7.43
	DTRA: BTRP	\$235	\$228	-\$7
	DTRA: Strategic Offensive Arms Elimination	\$7	\$7	\$0
	DTRA: WMD Proliferation Prevention Program	\$46	\$46	\$0

	Program Name	FY23 Baseline Enacted Funds	FY24 President's Budget Request	Change
	<i>All figures in millions</i>			
State	Nonproliferation and Disarmament Fund	* \$10	\$20	+\$10
	Global Threat Reduction Program	* \$91.1	\$96.6	+\$5.5
	Export Control and Related Border Security Program	* \$84.4	\$89.9	+\$5.5
	Pandemic Fund	** \$200	\$500	** +\$300
	USAID Global Health Security	\$745	\$745	\$0
Homeland Security	Biological Support Program	\$84.9	\$104.7	+\$19.8
	Food, Agriculture, and Veterinary Defense program	\$2.8	\$13.0	+\$10.2
	BD21 research and development	\$17	\$6.7	-\$10.3
	Urban Security Initiative	\$2.1	\$3.8	+\$1.6
	Chem-Bio Threat Surveillance & Detection	\$4.20	\$2.85	-\$1.35
USDA	National Bio and Agro-Defense Facility (NBAF)	\$112	\$126	+\$14
	USDA-ARS: Livestock Protection Program	\$153	\$162	+\$9
EPA	Homeland Security: Preparedness, Response, and Recovery (Science and Technology Program)	\$25.3	\$39.5	+\$14.2
	Homeland Security: Preparedness, Response, and Recovery (Hazardous Substance Superfund)	\$34.6	\$56.5	+\$21.9
	Safe and Sustainable Water Resources	\$116.1	\$123.5	+\$7.4

* The Department of State does not have enacted FY2023 spending publicly available. Numbers listed here are FY2023 requests.

** The United States contributed \$200 million to the Pandemic Fund effective April 2023 and \$250 million effective September 2022 for a total contribution of \$450 million so far.⁴⁴

44 The World Bank, "The Pandemic Fund," accessed July 20, 2023.