

At a Glance

H.R. 2500, National Defense Authorization Act for Fiscal Year 2020

As reported by the House Committee on Armed Services on June 19, 2019

By Fiscal Year, Millions of Dollars	2019	2019-2024	2019-2029
Direct Spending (Outlays)	0	-41	-9
Revenues	0	*	*
Deficit Effect	0	-41	-9
Spending Subject to Appropriation (Outlays)	0	704,426	n.e.
Statutory pay-as-you-go procedures apply?	Yes	Mandate Effects	
Increases on-budget deficits in any of the four consecutive 10-year periods beginning in 2030?	< \$5 billion	Contains intergovernmental mandate?	Yes, Under Threshold
		Contains private-sector mandate?	Yes, Under Threshold

n.e. = not estimated; * = between -\$500,000 and \$500,000.

The bill would

- Authorize appropriations totaling an estimated \$727,569 million for 2020, mainly for the military functions of the Department of Defense (DoD), the atomic energy defense activities of the Department of Energy, and the Maritime Administration
- Authorize an additional \$538 million for the Maritime Administration and other nondefense activities and \$24 million for DoD over the 2021-2024 period
- Prescribe personnel strengths for active-duty and selected-reserve components of the U.S. Armed Forces
- Extend DoD's authority to pay various bonuses and allowances to military personnel
- Make several changes to health benefits for both active and retired military personnel and their families
- Create a new military service to organize, train, equip, and operate space forces
- Require DoD to sell Internet Protocol version 4 (IPv4) addresses over the next 10 years
- Impose intergovernmental and private-sector mandates by increasing the authorized end strength for active-duty personnel, preempting state and local authorities, and amending certain contracts for military housing

Estimated budgetary effects would primarily stem from

- New authorizations of appropriations for defense programs
- Receipts from the sale of Internet Protocol addresses

Areas of significant uncertainty include

- Anticipating the timing and manner of the establishment of the Space Corps
- Predicting the future market demand for and global supply of IPv4 addresses

Detailed estimate begins on the next page.

Bill Summary

H.R. 2500 would authorize appropriations totaling an estimated \$728.1 billion over the 2020-2024 period. Of that amount, \$726.9 billion would be specifically authorized for 2020 for the military functions of the Department of Defense (DoD) and the atomic energy defense activities of the Department of Energy. An additional \$0.7 billion for 2020 and \$0.5 billion for the following four years would be specifically authorized for the Maritime Administration and various other nondefense programs. CBO estimates that appropriation of the authorized amounts would result in outlays of \$704.4 billion over the 2020-2024 period.

The bill also contains provisions that would affect the costs of defense programs funded through discretionary appropriations in 2021 and future years. Those provisions would affect force structure, compensation and benefits, the military health system, and various other programs. CBO has analyzed the costs of a select number of those provisions and estimates that they would, on a net basis, increase the cost of defense programs compared to current law by about \$10.0 billion over the 2021-2024 period. The net costs of those provisions in 2021 and beyond are not included in the total amount of outlays mentioned above because funding for those activities would be covered by specific authorizations in future years.

In addition, enacting H.R. 2500 would reduce direct spending by \$41 million over the 2020-2024 period and \$9 million over the 2020-2029 period. Enacting the bill would have an insignificant effect on revenues.

Estimated Federal Cost

The estimated budgetary effects of H.R. 2500 are shown in Table 1. Of the \$727.6 billion that would be authorized for 2020, nearly all—\$726.9 billion—would be for activities within budget function 050 (national defense).

Some authorizations, however, fall within other budget functions, including \$512 million for the Maritime Administration in function 400 (transportation), \$127 million for a medical facility demonstration fund in function 700 (veterans benefits and services); \$64 million for the Armed Forces Retirement Home in function 600 (income security); and \$14 million for the Naval Petroleum Reserves in function 270 (energy).

Basis of Estimate

For this estimate, CBO assumes that H.R. 2500 will be enacted near the start of fiscal year 2020 and that the authorized amounts will be appropriated each fiscal year.

Spending Subject to Appropriation

H.R. 2500 would specifically authorize \$727.6 billion for 2020 (see Table 2). Of that amount, \$726.9 billion would be for defense programs, and \$0.7 billion would be for nondefense programs.

For defense programs, \$655.6 billion of the authorization for 2020 would, if appropriated, be counted against that year's defense cap set in the Budget Control Act (BCA), as amended. Another \$71.3 billion would not be subject to that cap. Of amounts not subject to the BCA caps, \$69.0 billion would be for DoD's costs related to overseas contingency operations (primarily in and around Afghanistan, Iraq, and Syria), and \$2.3 billion in emergency authorizations would be for military construction projects related to damage caused by Hurricanes Florence and Michael.

The \$726.9 billion that would be specifically authorized for defense programs for 2020 is an increase of \$17.0 billion (or 2 percent) compared to amounts appropriated for 2019. Authorizations for three of the four major categories of DoD spending would increase: operation and maintenance by \$10.7 billion (or 4 percent), research and development by \$6.5 billion (7 percent), and military personnel by \$3.8 billion (3 percent). Authorized funding for procurement would fall by \$5.8 billion (4 percent) compared to the current level of funding. Authorizations for all other categories combined would increase by \$1.8 billion (5 percent).

For nondefense programs, the bill would authorize \$0.7 billion for 2020 and \$0.5 billion for the 2021-2024 period, primarily for programs of the Maritime Administration.

H.R. 2500 also contains provisions that would affect the cost of various discretionary programs in future years. Most of those provisions would affect end strength (the number of military personnel at the end of a fiscal year), military compensation and benefits, and the military health system. The estimated effects of some of those provisions are shown in Table 3 and described below. The following sections discuss how those provisions would affect the need for discretionary appropriations in future years.

Force Structure. The bill would affect the force structure of the military services by setting end-strength levels for 2020 and modifying the minimum end-strength levels authorized in permanent law.

Under title IV, the authorized end strength in 2020 for active-duty personnel and personnel in the Selected Reserves would total 1,339,500 and 800,800 respectively. Of those selected reservists, 86,715 would serve full time on active duty in support of the reserves. In total, selected-reserve end strength would decline by 16,900, although the number of selected reservists who would serve in full-time support positions would increase by 3,653, when compared with levels authorized under current law for 2020. Active-duty end strength would increase by 1,400. The specified end-strength levels for each component of the armed forces are detailed below with CBO's estimate of the effects of those changes on DoD's personnel and operation and maintenance costs. Those costs for additional personnel include components of military compensation such as basic pay, allowances, bonuses, and health care, as well as operating costs for training and maintenance.

Active-Duty End Strengths. Section 401 would authorize the following increases in active-duty personnel for three of the four services: 5,100 more for the Navy, 3,700 more for the Air Force, and 100 more for the Marine Corps. The end strength authorized for the Army would decrease by 7,500. CBO estimates that the net growth in active-duty personnel of 1,400 service members would cost \$0.8 billion over the 2020 -2024 period.

Selected Reserve End Strengths. Under section 411, the end strengths for three of the six reserve components would decrease: 10,000 fewer for Army Reserve, 7,500 fewer for Army National Guard, and 100 fewer for Navy Reserve. End strengths for the Air National Guard and Air Force Reserve would increase by 600 and 100, respectively, while the authorized level for the Marine Corps Reserve would not change. CBO estimates that the decrease of 16,900 reservists would reduce costs by \$3.0 billion over the 2020-2024 period.

Full-Time Selected Reserve End Strengths. Section 412 would increase the number of full-time reservists who serve on active duty in support of the reserves by 3,653 compared with currently authorized end-strength levels for 2020. Those additional full-time reservists would increase costs by \$2.4 billion over that same period.

Reserve Technician End Strengths. Section 413 would reduce the end strength for dual-status military technicians by 2,320. Those personnel are federal civilian employees who are required to maintain membership in a Selected Reserve component as a condition of their employment. CBO estimates that spending on salaries for dual status positions would decrease by \$1.2 billion over the 2020-2024 period. (Changing the number of dual-status technicians would not change the number of part-time reservists set by section 411, discussed above. Thus, the only budget effects would be the reduction in civilian compensation.)

Compensation and Benefits. H.R. 2500 includes several provisions that would affect compensation and benefits for uniformed personnel and civilian employees of DoD. The bill would specifically authorize regular appropriations of \$150.1 billion for the costs of military pay and allowances in 2020. For military personnel costs resulting from overseas contingency operations (primarily in and around Afghanistan, Iraq, and Syria), the bill would authorize the appropriation of an additional \$4.5 billion for 2020.

Expiring Bonuses and Allowance. Section 611 would extend for one year DoD's authority to enter agreements to pay certain bonuses and allowances to military personnel. The authority to enter into such agreements expires on December 31, 2019. Some bonuses are paid in lump sums, while others are paid in annual or monthly installments over several years of military service. On the basis of DoD's budget request for fiscal year 2020, CBO estimates that extending that authority for one year would cost \$8.6 billion over the 2020-2024 period.

Basic Needs Allowance. Section 602 would authorize DoD to pay a monthly allowance to service members whose gross incomes are less than 130 percent of the federal poverty

guidelines established by the Department of Health and Human Services. The amount of the allowance would be the difference between a service member's monthly gross income and the monthly income level at 130 percent of poverty guidelines for the location in the United States where the member lives and the size of the member's household. The basic allowance for housing would be excluded from the calculation of gross income; DoD would determine what other compensation, such as the basic allowance for subsistence, hostile fire pay, or reenlistment bonuses, would be included in gross income to determine eligibility for the new allowance. CBO expects that, given the clear instruction to exclude the basic allowance for housing from gross income and the lack of guidance on what other compensation to exclude, DoD would choose a narrow definition of gross pay and only include basic pay.

DoD would evaluate service members' income annually and notify candidates of their potential eligibility for the allowance by December 31 of each year. Candidates (those who received notification of potential eligibility and any other service members who want to apply) would have until January 31 to submit applications with any required documentation to demonstrate eligibility. DoD would review those applications and notify the applicants of DoD's final eligibility determination by February 28. CBO expects that some service members who would meet eligibility requirements would not receive the allowance because they would decline to receive the allowance or they would not submit the required information by the application deadline. Recipients of the basic needs allowance would be awarded the benefit for a full year; monthly payments would start in April and end in March of the following year.

CBO estimates that payments would begin in April of 2021 to allow time for DoD to develop regulations and procedures and to implement the new policy. On the basis of data about service members' pay and family sizes, CBO estimates that roughly 10,200 service members would receive an average allowance of \$400 each month. Those allowances would cost \$175 million over the 2021-2024 period.

If DoD used a broader definition of gross income, then the cost of the allowance would be lower because fewer service members would qualify. For example, if DoD included the basic allowance for subsistence in the gross income calculation, then CBO estimates the benefit would cost about \$50 million over that same period.

Benefits for Civilians in Combat Zones. Section 1104 would extend for one year the authority to grant benefits such as paid leave and travel for one trip home, and up to three leave periods each year for rest and recuperation to federal civilian employees who perform official duty in a combat zone. The authority to provide those benefits expires on September 30, 2020. On the basis of information from DoD and the Office of Personnel Management, CBO estimates that about 1,000 civilian employees of DoD and 500 employees of other federal agencies will work in a designated combat zone in 2021 and, under this provision, would receive an average benefit that would cost about \$20,000 a year.

Thus, CBO estimates that section 1104 would increase the costs of civilian employees of DoD by \$20 million and of other federal agencies by \$10 million.

Military Health System. Title VII of H.R. 2500 would make several changes to health benefits for both active and retired military personnel and their families. CBO estimates that if enacted, those provisions would increase DoD's health care costs by a total of about \$160 million over the 2020-2024 period.

Contraception Cost Sharing. Section 701 would eliminate all cost sharing for contraceptive pharmaceuticals and devices for those who use TRICARE, beginning in 2020. On the basis of information from DoD, CBO estimates that beneficiaries currently pay about \$13 million each year for their share of various contraceptive drugs and devices. Under the proposal, those costs would be borne by DoD.

In addition, eliminating out-of-pocket costs would increase beneficiaries' use of brand-name drugs and decrease the use of generic drugs because beneficiaries would no longer face higher copayments for brand-name drugs. Currently, TRICARE beneficiaries receive about 850,000 generic contraception prescriptions each year (in 30-day equivalents). On the basis of an examination of various studies, CBO estimates that beneficiaries would change about 5 percent of those prescriptions to brand-name drugs under section 701. CBO estimates that the average cost to DoD for a 30-day prescription of a brand-name contraceptive is about \$55 more than the average generic prescription. Therefore, this substitution towards brand-name drugs would initially increase annual costs by about \$3 million. After adjusting for inflation and accounting for the time needed to implement the policy, CBO estimates that eliminating cost sharing for contraception would increase costs to DoD by \$92 million over the 2020-2024 period.

Section 701 also would affect direct spending for health care. Those effects are described below under the heading "Direct Spending and Revenues."

Lead Screening. Section 704 would set guidelines for screening and testing for lead among children covered by TRICARE. It also would require DoD to maintain records on the date of construction of all housing occupied by military personnel. On the basis of the costs of other government programs such as the Centers for Disease Control Lead Poisoning Prevention Program, CBO estimates complying with this section would cost about \$10 million per year and by \$45 million over the 2020-2024 period.

PFAS Blood Test. Section 708 would require DoD to perform annual blood tests on military and DoD civilian firefighters to determine and document potential exposure to perfluoroalkyl and polyfluoroalkyl substances (PFAS). PFAS are chemical components of agents DoD uses to fight fuel fires. Recent studies suggest that PFAS are responsible for a number of adverse health effects. Using data from DoD, the Office and Personnel Management, and public sources, CBO estimates about 20,000 personnel would require such testing each year and that each test would cost about \$200. Thus, satisfying the requirement of section 708 would cost about \$4 million each year and \$20 million over the 2020-2024 period.

TRICARE Reserve Select. Section 703 would allow members of the Selected Reserve who are eligible for the Federal Employee Health Benefits Program (FEHB) to enroll in the TRICARE Reserve Select health benefit (TRS) beginning in 2030. Beneficiaries pay less for TRS plans than for FEHB. Using data from DoD, CBO estimates that about 110,000 members of the Selected Reserve are eligible for FEHB and that about one third would enroll in TRS if given the opportunity. On net, CBO estimates section 703 would eventually reduce discretionary costs to the government by about \$250 million per year beginning in 2030 because the cost of TRS is less than the government's share of the premiums for FEHB. Section 703 also would affect spending for other FEHB beneficiaries. Those effects are described in the "Direct Spending and Revenues" section of the estimate.

Other Provisions. Several other provisions would affect spending subject to appropriation by establishing a Space Corps in the Department of the Air Force and by authorizing the Navy to acquire an amphibious ship.

Space Corps. Sections 921 through 925 would create a new military service to organize, train, equip, and operate space forces. The new service would be established in the Department of the Air Force, similar to how the Marine Corps is a component of the Department of the Navy.

Most of the personnel and assets for the Space Corps would be transferred to the new service from existing forces. CBO estimates that DoD has 22,900 military and civilian personnel who perform space-related activities. Many of those could be transferred to the new service and thus would not affect net costs. In addition, CBO estimates that the Space Corps would require between 4,100 and 6,800 additional personnel for new management and support positions. Those additional positions would increase costs. In total, CBO estimates the annual recurring costs and onetime costs of the new Space Corps would increase by about \$3.6 billion over the 2020-2024 period.

Annual Costs. In a previous study, CBO estimated that the additional management and overhead positions required for this new military service would increase annual costs by between \$0.8 billion and \$1.3 billion (in 2020 dollars).¹ Those new positions would include new personnel to staff various headquarters and combatant commands, and personnel for recruiting, training, management, and other support functions. Those costs would increase over several years as additional positions are filled in phases. Based on information from DoD, CBO estimates that it would take about five years to fully staff the new service.² By taking the midpoint of the range from CBO's prior estimate, and adjusting for inflation, CBO

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1. See Congressional Budget Office, *The Personnel Requirements and Costs of New Military Space Organizations* (May 2019), www.cbo.gov/publication/55178. This report provides additional details on the methodology behind the estimates. In addition to the cost of standing up a new military service, the report also includes estimates of the cost of standing up a new combatant command and a new development agency for space assets.
 2. See Department of Defense, *United States Space Force* (February 2019), p. 9, <https://media.defense.gov/2019/Mar/01/2002095012/-1/-1/1/United-States-Space-Force-Strategic-Overview.pdf>.

estimates that salaries and expenses for those additional personnel would cost \$1.0 billion by 2024 and total about \$2.3 billion over the 2020-2024 period.

Onetime Costs. In addition to those annual costs, there would be onetime costs for new construction and renovation of facilities to house the added personnel and any existing personnel that would be relocated. There also would be onetime costs for such items as uniforms, signs, and stationary. In its earlier study, CBO estimated the onetime costs of standing up the new service would be between \$1.1 billion and \$3.0 billion (in 2020 dollars). On the basis of information on the timelines for previous construction and relocation projects, CBO estimates those onetime costs would arise over a period of eight years. Using the midpoint of the range from CBO's prior estimate and accounting for inflation, CBO estimates that the onetime costs for the new Space Corps would total \$1.4 billion over the 2020-2024 period; some onetime costs would occur after 2024.³

The creation of the new military service is part of a proposal to improve the organization of DoD's space forces and assets. The Administration also has proposed two more space organizations in its budget for fiscal year 2020: a new combatant command and a new agency that would develop and acquire space systems. CBO recently estimated that adding those two organizations would increase annual costs by between \$320 million and \$580 million (in 2020 dollars). Establishing those organizations also would incur onetime costs of between \$740 million and \$1,620 million.⁴ However, CBO expects that the Administration can establish those organizations using authorities in current law; thus, CBO's estimate of enacting H.R. 2500 does not include costs for those organizations.

There is significant uncertainty associated with CBO's cost estimates for creating a new Space Corps. Many decisions about the new service would have to be made in the coming years. Decisions about which military units and agencies would be transferred to the new service and whether to repurpose existing infrastructure or construct new facilities would significantly affect costs. Also, CBO's estimates of the additional costs of establishing a new Space Corps focus on overhead and management costs, and do not include the cost of adding new capabilities. The results of future decisions could make the costs of the new Space Corps significantly higher or lower than the amounts shown here.

Incrementally Fund the LPD-31 Amphibious Ship. Section 115 would allow the Navy to enter into a contract to build an LPD-17 amphibious ship (designated LPD-31) and to incrementally fund that contract over several years. CBO estimates that the LPD-31 will cost about \$2 billion; in 2019, the Congress appropriated \$350 million for its construction. The bill would authorize the appropriation of \$247 million in 2020 for that purpose. CBO

3. The estimate of onetime costs in CBO's May 2019 study included the cost of transfer bonuses for those military personnel who join the new Space Corps from other services. While those costs may eventually be realized, those transfer bonuses cannot occur without further Congressional authorization. Therefore, they are not included in this estimate.

4. Ibid, 1.

estimates that completing the ship would require appropriations of about \$1.4 billion in 2021.

Direct Spending and Revenues

Several provisions in H.R. 2500 would affect direct spending, and CBO estimates their enactment would decrease outlays by \$9 million over the 2019-2029 period (see Table 4). In addition, enacting the bill would have an insignificant effect on revenues.

Sale of Internet Protocol Addresses. Section 1088 would require the Secretary of Defense to sell at fair market value all of the department's Internet Protocol version 4 (IPv4) addresses over the next 10 years. The proceeds from those sales, after paying for sales transaction costs, would be deposited in the General Fund of the Treasury.

IP addresses allow networked devices (such as computers and mobile phones) to communicate with each other. The original IPv4 address system was limited to only 4.3 billion potential addresses and the current supply is severely limited. DoD controls 13 blocks, each composed of approximately 17 million individual addresses.

Several factors will determine the total value of IP address sales by DoD. There is currently a global market for IPv4 addresses; however, demand is expected to decline significantly over the next several years as more organizations adopt the new IPv6 configuration.

To estimate the potential receipts from the sale of IP addresses, CBO examined the security risks and market factors that would affect the number of addresses and the price for those addresses that could be sold within the ten-year budget window. CBO expects that DoD would not be prepared to sell any addresses before 2022 for several reasons. First, over the next two years DoD plans to study the cybersecurity requirements and procedures that will support the department's transition of IPv4 addresses to the next generation of IPv6 addresses. Second, the agency would then have to update its internal network operations in order to mitigate the security risks of transferring DoD IP addresses to nonfederal entities⁵. Third, DoD would have to amend its existing agreement with the American Registry for Internet Numbers (ARIN), which requires DoD to release unneeded IP addresses to ARIN for redistribution.

Section 1088 would require DoD to sell one block, or an equivalent number of addresses, within two years of enactment of the bill, a second block within three years of enactment, and all remaining addresses by 2029. On the basis of information from industry reports, market demand for IPv4 addresses is expected to decline within several years. Therefore, CBO estimates that DoD could sell no more than the

5. Specifically, many DoD cybersecurity practices limit trusted communication to IP addresses that are known to be within the DoD IP address ranges (also known as whitelisting).

equivalent of one block of approximately 17 million addresses before their market value significantly decreases. The government also may impose conditions on the sales because of national security concerns related to future uses of addresses previously held by DoD, which could dampen demand or prices for DoD's IPv4 addresses.

Potential proceeds from the sale of those IPv4 addresses are difficult to estimate for several reasons. First, the size and value of the secondary market after 2022 is uncertain. Some experts predict that prices will decline sharply in the next few years as a result of more users adopting IPv6, while others suggest that the market will change more slowly.⁶ Second, the total supply of addresses may increase and prices may drop if several large corporations, including pharmaceutical, automotive, and telecommunications firms, begin selling addresses that they no longer need.

To account for such uncertainties, CBO estimates that there is a 50 percent chance that demand will be sufficient after 2022 for DoD to sell the equivalent of one block of 17 million IPv4 addresses, and that there is a 50 percent chance that those addresses would be sold without any restrictions on their subsequent use that would reduce or eliminate their value. In developing this estimate CBO considered a range of outcomes, from zero addresses selling for cash to one full block selling at the average price in the current market, and used the midpoint of that range. On balance, CBO estimates that such sales would generate net proceeds of about \$100 million, after accounting for an estimated 10 percent fee paid to the private firms that would handle the transaction. That estimate would be equivalent to selling 8 million addresses at an average price of about \$14.⁷ CBO expects that the proceeds from such sales would be collected over the 2022-2029 period.

Reduced Age for Reserve Retirement. Members of the reserve components who qualify for retirement generally become eligible to receive retired pay at age 60. If members perform certain types of active duty or active service, the age at which they can begin to collect retired pay drops by three months for every 90 days of such service that is performed within two consecutive fiscal years. Section 627 would add active duty for preplanned missions in support of the combatant commands to the types of duty that reduce the eligibility age for reserve retirement.

On the basis of information from DoD about the number of reservists expected to serve on those missions and the age of activated reservists, CBO expects that about 30 additional reservists would receive retired pay in fiscal year 2020 under section 627, increasing to about 180 additional recipients by 2029. On the basis of information from

6. Brendan Kuerbis and Milton Mueller, *The Hidden Standards War: Economic Factors Affecting IPv6 Deployment* (Georgia Institute of Technology, February 2019) pp. 37-38, <https://www.internetgovernance.org/wp-content/uploads/IPv6-Migration-Study-final-report.pdf>.

7. Some industry experts estimate that the market price for addresses like those held by DoD will average \$22 to \$30 each in 2019. The median price over the 2015-2018 period was \$17, up from \$14 in 2014.

the DoD Office of the Actuary, CBO expects that reserve retirees who become eligible for retired pay before age 60 would collect about \$35,000 in retired pay in 2020, increasing to about \$47,000 in 2029. In total, CBO estimates that section 627 would increase direct spending for reserve retired pay by \$41 million over the 2020-2029 period.

Afghan Special Immigrant Visas. Section 1212 would amend the Afghan Allies Protection Act of 2009 to increase by 300 the total number of Special Immigrant Visas (SIVs) that could be issued to qualified applicants who applied before the end of calendar year 2021. Afghans who would be eligible under this provision are those who were employed by or on behalf of the U.S. government or the International Security Assistance Force at some point since 2001 and are experiencing an ongoing serious threat as a consequence of that employment. (Additional SIVs, not subject to limitation, are available to certain relatives of those employees who receive SIVs.)

CBO estimates that approximately 1,300 people would receive SIVs under section 1212. On the basis of information from the State Department, CBO anticipates that aliens granted SIVs under section 1212 would arrive in the United States in fiscal year 2022, after the supply of SIVs that are available under current law is exhausted. Like refugees (but unlike most other categories of aliens), Afghan special immigrants are eligible for all federal benefits if they meet the other eligibility standards for those programs. Thus, upon arrival in the United States, they could apply for and begin to receive subsidies for health insurance purchased through the marketplaces established under the Affordable Care Act, and benefits from Medicaid, nutrition programs, and the Supplemental Security Income program. CBO uses a variety of administrative and survey data to estimate Afghan special immigrants' use rates and per-capita costs for those benefit programs. On that basis, CBO estimates that direct spending for those benefits would increase by \$38 million over the 2022-2029 period.

Aviation Insurance. The Federal Aviation Administration's authority to insure carriers that participate in the Civil Reserve Air Fleet (CRAF) expires on December 31, 2019. The federal government bears the full cost of that insurance because carriers do not pay premiums for that coverage. Section 354 would extend that authority through the end of fiscal year 2023. Providing that insurance would result in mandatory obligations for the cost of losses because the Administration does not know the amount of the liability and thus cannot record an obligation against discretionary budget authority at the time it offers the insurance. Based on historical data on the cost of covered losses that have occurred, CBO estimates that the extension would increase direct spending by \$2 million each year and by a total of \$8 million over the 2020-2023 period.

Contraception Cost Sharing. Section 701 would eliminate all cost sharing for contraceptive pharmaceuticals and devices for TRICARE beneficiaries. Implementing this section would

increase direct spending because it would lower the out-of-pocket cost for retirees of the other uniformed services (U.S. Coast Guard, National Oceanic and Atmospheric Administration, and Public Health Service) and their dependents. Health benefits for that population are paid from mandatory appropriations. The portion of costs that are covered by copayments from beneficiaries would instead be paid by the government. In total, CBO estimates that section 701 would increase direct spending by \$3 million over the 2020-2029 period.

Implementing section 701 also would increase discretionary spending. Details of those effects, as well as additional details about the estimate in general, are described under the heading “Spending Subject to Appropriation.”

Board of Discharge Appeals. Veterans or their next of kin may request that a military service upgrade the characterizations of their discharge from the armed forces through each service’s Discharge Review Board (DRB) and Board for Correction of Military (or Naval) Records (BCMR). Section 521 would require the Secretary of Defense to establish a Board of Discharge Appeals to hear appeals from veterans whose requests for upgrades are denied by a DRB or BCMR. By creating a new body with different adjudicators from which veterans can seek discharge upgrades, section 521 would result in a small number of additional upgrades each year, CBO expects.

Some of the veterans whose discharges would be upgraded would become eligible for additional benefits. On the basis of information from DoD, CBO expects that most of those veterans with upgraded discharges would become eligible for separation pay that they were denied when they left the service because of the original characterization of their discharge. Retroactive separation pay currently averages about \$21,000. On that basis, and the expectation that a small number of veterans would be newly eligible, CBO estimates that section 521 would increase direct spending for retroactive separation pay by an insignificant amount each year and by \$1 million over the 2020-2029 period.

National Defense Stockpile. Section 807 would authorize the manager of the National Defense Stockpile to sell 3 million pounds of tungsten from the stockpile. On the basis of information about prices and market demand, CBO estimates that the tungsten would sell for \$37 million, which would be recorded as receipts in the National Defense Stockpile Fund. CBO expects that the stockpile manager would sell that tungsten in 2022 after it completes the sale of other tungsten required under current law. Section 807 also would allow the stockpile manager to spend up to \$37 million from the Fund to purchase materials critical to defense and civilian industrial needs, including rare earth materials. That authority would expire in 2024. On the basis of information from DoD, CBO estimates that DoD would spend \$37 million to purchase those critical materials over the 2020-2024 period. CBO estimates that net effect of those transactions would almost completely offset over the

2020-2029 period. Section 807 would affect outlays but would not affect net budget authority.

Amounts deposited in the Stockpile Fund are permanently appropriated under current law. Thus, authorization to purchase new materials from fund balances does not create new budget authority. In addition, budget authority from the receipts from newly authorized sales of materials would be fully offset by the permanent authority to spend those amounts once they are deposited in the fund.

TRICARE Reserve Select. Section 703 would allow members of the Selected Reserve who are eligible for the Federal Employee Health Benefits Program to enroll in the TRICARE Reserve Select benefit beginning in 2030. Because members of the Selected Reserve are younger and healthier than the average federal employee, reservists and their family members who discontinue FEHB coverage would cause an increase in premiums for all remaining FEHB beneficiaries, including federal retirees and active postal employees, whose premiums are paid from mandatory accounts. When implemented, CBO estimates this section would increase direct spending by about \$40 million each year beginning in 2030.

Implementing section 703 also would affect discretionary spending. Those effects are described above, under the heading “Spending Subject to Appropriation.”

Other Direct Spending Provisions. Several provisions in H.R. 2500 would have insignificant effects on direct spending or revenues, generally because very few people would be affected, or because the proposal would allow the spending of new receipts so that the net effect would be small.

- Section 313, 516 and 1222 would extend or add to DoD’s authority to accept and spend contributions from nonfederal entities for various purposes. Because the department might not spend all the contributions it receives, those sections could reduce direct spending.
- Section 512 would permit DoD to retain in an active status certain medical specialists beyond their mandatory separation age. That change would affect when some service members would begin drawing retirement annuities.
- Section 524 would require DoD to certify within five days (or three weeks, in the case of a member in the reserve component) that a noncitizen service member has served honorably for purposes of naturalizing (becoming a citizen) through honorable service in the armed forces. Accelerating when a service member becomes a citizen could in turn accelerate when the service member’s parents could arrive in the United States as lawful permanent residents (LPRs). LPRs are eligible for federal benefits such as subsidies for health insurance purchased through the market places established under the Affordable Care Act.

- Section 541 would increase protections from reprisal for whistleblowers who are military personnel. CBO estimates that enacting that section would increase the number of substantiated claims of reprisals and allow those victims to receive retroactive payments, benefits, or awards that were improperly denied.
- Section 573 would allow DoD to pay to transport the remains of certain individuals to two locations if the second destination is a national cemetery.
- Section 574 would prohibit DoD from implementing its policy to eliminate service members' eligibility to transfer Post-9/11 GI Bill benefits after 16 years of service. CBO expects that under that limitation, some beneficiaries would use benefits sooner, while others would use benefits later. The corresponding increases and decreases in direct spending would largely offset each other.
- Section 583 would require DoD to review the service records of certain service members who fought in World War I to determine whether they should be awarded the Medal of Honor. Those service members are African-American, Asian-American, Hispanic-American, Jewish-American, and Native-American veterans who were recommended for the Medal of Honor or who won the Distinguished Service Cross, Navy Cross, or French Croix de Guerre with Palm. One Hispanic-American and three Jewish-American veterans were awarded Medals of Honor at the conclusion of the war. Decades later, the first two African-American veterans (Freddie Stowers and Henry Johnson) and a fourth Jewish-American veteran (William Shemin) also were awarded the nation's highest award for valor following reviews of their service records. Any Medals of Honor awarded pursuant to the section 583 review would be awarded posthumously; the last United States veteran of World War I died in 2012. A remote possibility exists, however, that one of the veterans honored under section 583 could have a surviving widow. Such a widow could potentially receive expanded health benefits or increased survivor benefits.
- Section 704 would expand lead screening for children enrolled in the military health system. Among those are children of retirees of the Coast Guard, National Oceanic and Atmospheric Administration, and the Public Health Service, whose health benefits are funded with mandatory appropriations.
- Section 827 would eliminate the requirement that DoD initiate competitive procurement procedures for products for which Federal Prison Industries (FPI) has at least a 5 percent market share. FPI is a government-owned corporation that produces goods and services with prison labor and its collections and spending are considered mandatory; thus, attempts to modify its market would likely result in changes in net direct spending.

- Section 895 would extend the sunset provision of the Federal Data Center Consolidation Initiative (FDCCI) from 2020 to 2022. That initiative is intended to reduce costs, save energy, and decrease the number of federal data centers. Extending this authority would affect direct spending by agencies not funded through annual appropriations.
- Section 1110 would create new reporting and notification requirements for federal agencies relating to antidiscrimination matters. Those requirements could affect direct spending by some agencies (such as the Tennessee Valley Authority) that use receipts from fees, the sale of goods, and other collections to cover operations costs. Because most of those agencies can adjust the amounts they collect as operating costs change, CBO estimates that any net change in direct spending by those agencies would be insignificant.
- Section 2841 would authorize the Air Force to convey land located at Hill Air Force Base to the State of Utah. The State would be required to reimburse the Air Force for the costs of conveying the property.
- Section 2842 would authorize the Army to release all terms and conditions retained over land located at Camp Joseph T. Robinson to the State of Arkansas. The State would be required to reimburse the Army for the costs of releasing the terms and conditions.
- Sections 549 and 560 would require DoD to implement policies to provide victims of alleged sexual assault with immunity from charges stemming from collateral misconduct when reporting sexual assault. Fines and forfeitures adjudged against service members during military justice proceedings are classified as revenues. CBO expects the policies would change the number of cases that are adjudicated; that change could increase or decrease revenues in a given year.

Uncertainty

As described above areas of significant uncertainty include accurately estimating the manner and timing by which DoD would establish the new Space Corps. Additionally, the timing and amount of proceeds from the sale of IPv4 addresses is affected by uncertainty about the supply and demand for those addresses and the DoD's ability to dispose of them in a manner that mitigates cybersecurity concerns. The estimate for the Basic Needs Allowance is also affected by uncertainty about the number of service members who would qualify for the benefit, and the amount of that benefit.

Pay-As-You-Go Considerations

The Statutory Pay-As-You-Go Act of 2010 establishes budget-reporting and enforcement procedures for legislation affecting direct spending or revenues. The net changes in outlays that are subject to those pay-as-you-go procedures are shown in Table 4.

Increase in Long-Term Deficits

CBO estimates that enacting H.R. 2500 would not increase on-budget deficits by more than \$5 billion in any of the four consecutive 10-year periods beginning in 2030.

Mandates

H.R. 2500 contains intergovernmental and private-sector mandates as defined in UMRA. CBO estimates that the aggregate cost of the mandates on would fall below the annual thresholds established for intergovernmental and private-sector mandates (\$82 million and \$164 million respectively in 2019, adjusted annually for inflation).

Mandate that Applies to Public and Private Entities

Section 401 would increase the costs of complying with existing intergovernmental and private-sector mandates by increasing the authorized end strength for active-duty personnel by about 1,400 relative to levels authorized for fiscal year 2019. Those additional service members would be eligible for existing protections under the Servicemembers Civil Relief Act (SCRA). Protections under SCRA require public and private entities to grant active-duty personnel various allowances for business and tax transactions and court procedures.

For example, SCRA allows service members to maintain a single state of residence for paying state and local personal income taxes and to request deferrals for certain state and local fees. SCRA also requires creditors to charge no more than 6 percent interest rate on service members' loan obligations when those obligations were incurred prior to active-duty service, and it allows courts to temporarily stay certain civil proceedings, such as evictions, foreclosures, and repossessions. The act also precludes the use of a service member's personal assets to satisfy the member's trade or business liability while he or she is in military service.

Service members' utilization of the various provisions of the SCRA depends on a number of uncertain factors, including how often and how long they are deployed. However, the increase in the number of active-duty service members covered by SCRA would be small, so CBO estimates that the incremental cost of compliance for public or private entities also would be small.

Mandates that Apply to Public Entities Only

CBO considers the residency benefits conferred on military spouses to be a preemption of the taxing authority of state and local governments. Section 624 would expand those benefits to allow military spouses to retain their state of residency for purposes of registering a business while living in another state with their spouse who has relocated under military or naval orders. CBO expects some spouses would elect to retain their residency if tax and fee rates in their home state are lower. Although the effect on revenue collections by individual state and local governments would vary, depending on the number and income of these individuals and where they reside, CBO estimates the net effect of this preemption would be small.

Mandates that Apply to Private Entities

Section 2812 and 2820 would retroactively change agreements between DoD and landlords that service military housing constructed under alternative authorities. Specifically, those sections would, for contracts that have already been executed, prohibit nondisclosure agreements in leases for such housing and grant DoD access to those facilities after construction is completed for health and safety inspections. Those retroactive changes to existing contracts would be private sector mandates under UMRA; CBO expects the cost to comply with the new requirements would be negligible.

Exclusion

Section 4 of the Unfunded Mandates Reform Act excludes from the application of that act any legislative provision that would enforce constitutional rights of individuals. CBO has determined that section 575 falls within that exclusion because it enforces constitutional rights related to voting.

Estimate Prepared By

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- Defense Authorizations—Kent Christensen
- Military Construction, IPv4 Sales—Aldo Prosperi
- Military Health Care—Matthew Schmit
- Military Personnel—Dawn Regan
- Military Retirement and Immigration—David Rafferty
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Table 1.
Estimated Budgetary Effects of H.R. 2500, as reported by the House Committee on Armed Services on June 19, 2019

	By Fiscal Year, Millions of Dollars						2019-2024
	2019	2020	2021	2022	2023	2024	
Increases in Spending Subject to Appropriation							
Authorization Levels for Appropriations Subject to the BCA Caps							
Defense							
Specified Authorizations for the Departments of Defense and Energy							
Authorization Level ^a	0	655,552	6	6	6	6	655,576
Estimated Outlays	0	379,889	156,105	56,401	28,196	12,673	633,264
Nondefense							
Specified Authorizations for Various Departments and Agencies							
Authorization Level ^{a,b}	0	717	60	156	156	156	1,245
Estimated Outlays	0	326	140	204	235	252	1,157
Estimated Authorizations for Various Departments and Agencies							
Estimated Authorization Level ^c	0	0	10	0	0	0	10
Estimated Outlays	0	0	9	1	0	0	10
Subtotal							
Estimated Authorization Level	0	656,269	76	162	162	162	656,831
Estimated Outlays	0	380,215	156,254	56,606	28,431	12,925	634,431
Specified Authorization for Defense Appropriations not Subject to the BCA Caps							
Authorization Level ^{a,d}	0	71,300	0	0	0	0	71,300
Estimated Outlays	0	39,624	20,338	6,272	2,658	1,103	69,995
Total							
Estimated Authorization Level	0	727,569	76	162	162	162	728,131
Estimated Outlays	0	419,839	176,592	62,878	31,089	14,028	704,426
Increases or Decreases (-) in Direct Spending^e							
Estimated Budget Authority	0	3	4	-11	-21	-17	-41
Estimated Outlays	0	11	12	-15	-25	-25	-41

Except as described in footnote c, the authorization levels in this table reflect amounts that would be specifically authorized by the bill (as shown in Table 2). Some provisions in the bill also would affect the costs of defense programs in 2021 and subsequent years; estimates for a select number of those provisions are shown in Table 3, but are not included in the defense authorizations above because CBO expects that authorizations of appropriations for those costs will be provided in subsequent defense authorization acts. Enactment of H.R. 2500 would have an insignificant effect on revenues.

Components may not sum to totals because of rounding; BCA = Budget Control Act.

- Amounts that would be specifically authorized by the bill.
- Authorizations for the Maritime Administration (\$1,040 million), the Department of Veterans Affairs (\$127 million), the Armed Forces Retirement Home (\$64 million) and the Naval Petroleum Reserves (\$14 million).
- Section 1104 would extend by one year benefits such as paid leave to federal workers who perform official duties in a combat zone and are employed by departments and agencies other than the Department of Defense. That authority expires on September 30, 2020.
- Of this amount, \$69,000 million is for costs of overseas contingency operations, primarily in and around Afghanistan, Iraq, and Syria. The remaining \$2,300 million are emergency authorizations for the costs of military constructions projects related to damage from hurricanes Florence and Michael.
- In addition to the changes in direct spending shown here, H.R. 2500 would have effects beyond 2024. CBO estimates that over the 2020-2029 period, H.R. 2500 would decrease outlays by \$9 million (see Table 4).

Table 2.
Specified Authorizations in H.R. 2500, as reported by the House Committee on Armed Services on June 19, 2019

	By Fiscal Year, Millions of Dollars						2019-2024
	2019	2020	2021	2022	2023	2024	
Specified Authorizations Subject to the BCA Caps							
Defense							
Department of Defense							
Military Personnel							
Authorization Level	0	150,065	0	0	0	0	150,065
Estimated Outlays	0	139,519	8,532	202	41	0	148,294
Operation and Maintenance							
Authorization Level	0	237,724	6	6	6	6	237,748
Estimated Outlays	0	153,573	62,058	10,624	3,465	1,491	231,211
Procurement							
Authorization Level	0	131,568	0	0	0	0	131,568
Estimated Outlays	0	24,105	39,320	31,701	18,430	8,117	121,673
Research and Development							
Authorization Level	0	100,788	0	0	0	0	100,788
Estimated Outlays	0	45,906	37,121	9,027	4,269	2,028	98,351
Military Construction and Family Housing							
Authorization Level	0	10,584	0	0	0	0	10,584
Estimated Outlays	0	932	2,215	2,842	1,934	992	8,915
Revolving Funds							
Authorization Level	0	2,149	0	0	0	0	2,149
Estimated Outlays	0	1,535	427	90	51	44	2,147
Subtotal Department of Defense							
Authorization Level	0	632,879	6	6	6	6	632,903
Estimated Outlays	0	365,570	149,673	54,486	28,190	12,672	610,591
Atomic Energy Defense Activities							
Authorization Level ^a	0	22,673	0	0	0	0	22,673
Estimated Outlays	0	14,319	6,432	1,915	6	1	22,673
Subtotal, Defense							
Authorization Level	0	655,552	6	6	6	6	655,576
Estimated Outlays	0	379,889	156,105	56,401	28,196	12,673	633,264
Nondefense							
Other Departments and Agencies							
Authorization Level ^b	0	717	60	156	156	156	1,245
Estimated Outlays	0	326	140	204	235	252	1,157
Subtotal (subject to caps)							
Authorization Level	0	656,269	66	162	162	162	656,821
Estimated Outlays	0	380,215	156,245	56,605	28,431	12,925	634,421

(Continued)

**Table 2.
Continued**

	By Fiscal Year, Millions of Dollars						2019-2024
	2019	2020	2021	2022	2023	2024	
Specified Authorizations Not Subject to the BCA Caps ^e							
Military Personnel							
Authorization Level	0	4,486	0	0	0	0	4,486
Estimated Outlays	0	4,136	295	3	1	0	4,435
Operation and Maintenance							
Authorization Level	0	52,781	0	0	0	0	52,781
Estimated Outlays	0	32,403	15,971	2,860	810	367	52,411
Procurement							
Authorization Level	0	9,901	0	0	0	0	9,901
Estimated Outlays	0	2,621	2,958	2,294	1,178	449	9,500
Research and Development							
Authorization Level	0	891	0	0	0	0	891
Estimated Outlays	0	384	354	83	35	14	870
Military Construction							
Authorization Level	0	3,221	0	0	0	0	3,221
Estimated Outlays	0	66	756	1,030	634	273	2,759
Working Capital Funds							
Authorization Level	0	20	0	0	0	0	20
Estimated Outlays	0	14	4	2	0	0	20
Subtotal (not subject to caps)							
Authorization Level	0	71,300	0	0	0	0	71,300
Estimated Outlays	0	39,624	20,338	6,272	2,658	1,103	69,995
Total Specified Authorizations							
Authorization Level	0	727,569	66	162	162	162	728,121
Estimated Outlays	0	419,839	176,583	62,877	31,089	14,028	704,416

This table reflects the authorizations explicitly stated in the bill in specified amounts. Various provisions of the bill also would authorize activities and provide authorities that would affect costs in 2021 and in future years. Because the bill would not specifically authorize appropriations to cover those costs, they are not reflected in this table. Rather, Table 3 contains the estimated costs of some of those provisions.

Components may not sum to totals because of rounding; BCA = Budget Control Act.

- a. Primarily for atomic energy defense activities of the Department of Energy.
- b. The bill would authorize \$1,040 million over the 2020-2024 period for the Maritime Administration. That amount excludes authorizations specified in the bill that are already authorized in current law. It also would authorize \$127 million for the Department of Veterans Affairs, \$64 million for the Armed Forces Retirement Home, and \$17 million for the Naval Petroleum Reserves.
- c. Under H.R. 2500, funding provided for 2020 pursuant to the authorizations in titles XV, XXIX, and XXX would not be subject to the BCA cap on defense appropriations for that year. Of the \$71,300 million that would be authorized under those titles, \$69,000 million would be for costs related to Overseas Contingency Operations (primarily military operations and related activities in and around Afghanistan, Iraq, and Syria), and \$2,300 million would be emergency authorizations for military construction projects.

**Table 3.
Estimated Costs for Selected Provisions in H.R. 2500, as reported by the House Committee on Armed Services on June 19, 2019**

	By Fiscal Year, Millions of Dollars						2019-2024
	2019	2020	2021	2022	2023	2024	
Force Structure							
Active-Duty End Strengths	0	25	235	160	166	171	757
Selected Reserve End Strengths	0	-430	-529	-646	-664	-682	-2,951
Full-time Selected Reserve End Strengths	0	247	505	521	536	552	2,361
Reserve Technicians End Strengths	0	-126	-260	-268	-276	-284	-1,214
Compensation and Benefits							
Expiring Bonuses and Allowances	0	3,123	2,166	1,462	1,440	402	8,593
Basic Needs Allowance	0	0	25	50	50	50	175
Benefits for Civilians in Combat Zones							
Defense	0	0	20	0	0	0	20
Nondefense	0	0	10	0	0	0	10
Military Health System							
Contraception Cost Sharing	0	13	18	19	20	22	92
Lead Screening	0	5	10	10	10	10	45
PFAS Blood Test	0	2	4	4	5	5	20
Other Provisions							
Space Corps							
Annual Costs	0	0	150	400	700	1,000	2,250
Onetime Costs	0	70	100	200	500	500	1,370
Incrementally Fund the LPD-31 Amphibious Ship	0	247	1,390	0	0	0	1,637

Amounts shown in this table for 2020—for costs that would be incurred by DoD—are included in the amounts that would be specifically authorized to be appropriated by the bill (as shown in Table 2 and summarized in Table 1). Associated amounts shown in this table for 2021-2024 would not be specifically authorized by the bill (and therefore are not included in Tables 1 and 2); rather, those amounts would be covered by specified authorizations in future National Defense Authorization Acts.

For agencies other than DoD, the bill would not authorize appropriations (in specified amounts) to cover costs shown above. Table 1 summarizes CBO's estimate of those costs.

PFAS = perfluoroalkyl and polyfluoroalkyl substances.

Table 4.
Estimated Increases or Decreases in Direct Spending Under H.R. 2500, as reported by the House Committee on Armed Services on June 19, 2019

	By Fiscal Year, Millions of Dollars											2019-2024	2019-2029
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029		
Increases or Decreases (-) in Direct Spending													
Sale of Internet Protocol Addresses													
Estimated Budget Authority	0	0	0	-20	-32	-25	-9	-4	-4	-3	-3	-77	-100
Estimated Outlays	0	0	0	-20	-32	-25	-9	-4	-4	-3	-3	-77	-100
Reduced Age for Reserve Retirement													
Estimated Budget Authority	0	1	2	2	3	3	4	5	6	7	8	11	41
Estimated Outlays	0	1	2	2	3	3	4	5	6	7	8	11	41
Afghan Special Immigrant Visas													
Estimated Budget Authority	0	0	0	5	6	5	5	5	4	4	4	16	38
Estimated Outlays	0	0	0	5	6	5	5	5	4	4	4	16	38
Aviation Insurance													
Estimated Budget Authority	0	2	2	2	2	0	0	0	0	0	0	8	8
Estimated Outlays	0	2	2	2	2	0	0	0	0	0	0	8	8
Contraception Cost Sharing													
Estimated Budget Authority	0	*	*	*	*	*	*	*	*	*	*	1	3
Estimated Outlays	0	*	*	*	*	*	*	*	*	*	*	1	3
Board of Discharge Appeals													
Estimated Budget Authority	0	*	*	*	*	*	*	*	*	*	*	*	1
Estimated Outlays	0	*	*	*	*	*	*	*	*	*	*	*	1
National Defense Stockpile													
Estimated Budget Authority	0	0	0	0	0	0	0	0	0	0	0	0	0
Estimated Outlays	0	8	8	-4	-4	-8	*	0	0	0	0	*	*
Total Changes in Direct Spending													
Estimated Budget Authority	0	3	4	-11	-21	-17	*	6	6	8	9	-41	-9
Estimated Outlays	0	11	12	-15	-25	-25	*	6	6	8	9	-41	-9

Components may not sum to totals because of rounding; * = between -\$500,000 and \$500,000.

Other provisions in H.R. 2500 would have insignificant effects on direct spending and revenues.