LEGISLATIVE BRANCH APPROPRIATIONS FOR FISCAL YEAR 2020

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WEDNESDAY, APRIL 10, 2019

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 3:23 p.m., in room SD–124, Dirksen Senate Office Building, Hon. Cindy Hyde-Smith (Chairman) presiding.

Present: Senators Hyde-Smith, Lankford, and Murphy.

GOVERNMENT ACCOUNTABILITY OFFICE AND CONGRESSIONAL BUDGET OFFICE

OPENING STATEMENT OF SENATOR CINDY HYDE-SMITH

Senator HYDE-SMITH. Good afternoon. The subcommittee will come to order. I appreciate your attendance, and because we're in between votes right now, we may have to recess, but we are going to get as far as we can and then go make the second vote.

I'd like to welcome everyone to our third fiscal year 2020 budget hearing for the Legislative Branch Appropriations Subcommittee. Today we have with us the Comptroller General of the United States and head of the Government Accountability Office, the Honorable Gene Dodaro, and the Director of the Congressional Budget Office, Dr. Keith Hall.

Thank you for being here today to provide testimony to the subcommittee regarding your fiscal year 2020 budget requests. I'd also like to thank both of you for taking time to meet with me before this hearing, and I greatly appreciate those conversations and the opportunity to learn more about you and your agencies.

Both GAO and CBO provide Congress with valuable information that we, as lawmakers, use to make informed decisions to better serve our constituents and this Nation. We appreciate and recognize the time and resources which inform the analyses you provide to us.

The total budget request for GAO is $647.6 million. This represents an increase of $57.8 million, or 9.8 percent, above the fiscal year 2019 enacted level. The increases would allow GAO to reach its optimal staffing level of 3,250 FTE and provide for investments in physical infrastructure and Information Technology modernization.

The CBO request for fiscal year 2020 totals $53.6 million, an increase of $2.8 million, or 5.6 percent, above the fiscal year 2019 en-

acted level. This increase includes funding for staff hired throughout fiscal year 2019 to improve transparency as well as funding for new hires in fiscal year 2020. It also would provide funds to maintain further development of critical IT infrastructure.

I look forward to our discussion today and learning more about the requests from each of your agencies.

Right now Senator Murphy is still voting, so when he gets here, I will certainly turn to him for his opening statement.

I'm going to defer to Senator Lankford for any opening statements you may have.

Senator LANKFORD. No, I'll just say thank you to both of you and the work that you've already done, and grateful to be able to receive your testimony today and look forward to ongoing dialogue. Thank you.

Senator HYDE-SMITH. Great. I will recognize each of you now to make your statements.

And I will start with you, Mr. Dodaro.

STATEMENT OF HON. GENE DODARO, COMPTROLLER GENERAL OF THE UNITED STATES AND HEAD OF THE U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Mr. DODARO. Thank you very much, Chairman Hyde-Smith.

Good afternoon to you, Senator Lankford.

Nice to see both of you again.

I appreciate the opportunity to talk about our request for fiscal year 2020.

First, I want to thank this subcommittee for the support that you've given GAO in the past. We have provided a good return on that investment. Last year, actions on our recommendations saved over $75 billion, which is $124 back for every dollar invested in GAO. This builds on a long track record of producing financial benefits for the country.

When I testified last month before Congress on our latest high-risk list update I mentioned that since 2006, actions on our recommendations in the high-risk area saved over $350 billion.

Next month I will testify on our ninth annual report on overlap duplication of fragmentation in the Federal Government. I expect to announce that the financial benefits through actions there, by both the Congress and the executive branch have well exceeded the $178 billion that we mentioned last year.

In addition to these financial benefits, we have other actions on the recommendations that help improve the operations and activities of a range of Federal agencies across the entire Federal Government including public safety and security. We have done work on elder abuse issues, lead in drinking water for our schools, K–12 schools, and suicide prevention for veterans. We've made recommendations on the opioid crisis, how to strengthen security around airports, and a wide range of other areas. It's important to note that we are not just about producing financial benefits, we are helping improve government performance and accountability.

GAO REQUEST

As you mentioned, Chairman Hyde-Smith, we're asking for $647 million for next year. This will provide the full complement of staff

at 3,250 FTE, which we think we need in order to meet the highest priority needs of the Congress. We continue to serve over 90 percent of the standing committees and most of the subcommittees by providing assistance. This request will enable the GAO to meet the highest priority needs across the committees and the Congress. I meet on a regular basis with the Chair and Ranking Members of each of these committees to make sure the GAO is addressing their highest priority needs.

There are four areas in particular that the GAO would like to continue to build our capacities on. The first is science and technology issues. The emergence of science and technology issues is transforming the way that we are learning, communicating, educating, and changing the very face of warfare in the future, whether you are talking artificial intelligence or quantum computing.

Cryptocurrencies and blockchains are changing the nature of how financial transactions are conducted and financial advice. GAO has been asked by the Congress since 2002 to produce technology assessments to advise the Congress on some of the legal, ethical, regulatory, and other practical policy implications of these new developing technologies.

Our work also requires that we look at weapons systems, whether it's a *Columbia*-class nuclear submarine or the Joint Strike Fighter. The GAO looks at space programs, satellite programs, and healthcare, including technologies to more rapidly detect infectious diseases. The GAO is looking at antibiotic-resistance bacteria now.

In order to do our work, it is very important that we have this capability. I have submitted to the subcommittee a plan that it requested last year, last month, to establish a science technology assessment and analysis group in GAO that builds upon the groups that we already have. The plan also outlines how GAO would propose to grow that team into the future because these issues are going to be requiring Congress to respond faster and faster. This evolution is going a lot faster than the agrarian society to the Industrial Revolution. We are on a new pace here.

Second is cybersecurity. It permeates everything across the Federal Government. This year, based on the subcommittee's help, the GAO expanded its team from 140 to 175 people. We are able to hire people with these skills. We are undertaking a lot of work. There needs to be a more comprehensive national and global cybersecurity strategy that deals with supply chain issues. I can talk more about this in the Q&A session if you would like, but we have outlined 4 areas and 10 actions in the cybersecurity area that our country needs to take. I am very concerned that our country is not acting with the same sense of urgency commensurate with the threat in the cybersecurity realm. The issue with these advancements in technologies, will get more complicated, not less.

The last two areas are the biggest spending areas in the Federal Government. Defense, there's significant work that we're doing there. I've been concerned about readiness levels. Congress has required DOD to act on our recommendations and readiness. They required us over the next several years to assess their plan for rebuilding readiness.

Healthcare is the final area. It's the fastest growing area of the Federal Government except perhaps for interest on our debt, which is a separate discussion. We need to do more. Right now, Medicare and Medicaid combined are over a trillion dollars of the Federal Government's budget. By 2026, they are likely to each be a trillion dollars over that amount, particularly Medicaid if you count State funding as well.

These programs are growing rapidly. Medicare and Medicaid have a high rate of improper payments. The GAO has made several recommendations about payment policies that could save the government money and not affect the healthcare that we provide our citizenry under these two programs.

I know that you will give careful consideration to our request. I thank you for holding this hearing, giving us the opportunity. I will be prepared to answer questions at the appropriate time.

[The statement follows:]

PREPARED STATEMENT OF HON. GENE L. DODARO

(*See* in its original format the full report GAO–19–451T and statement of Gene L. Dodaro, Comptroller General of the United States, in Appendix A at the end of the hearing.)

FISCAL YEAR 2020 BUDGET REQUEST

U.S. GOVERNMENT ACCOUNTABILITY OFFICE

GAO HIGHLIGHTS

Highlights of GAO–19–451T, a report to Subcommittee on the Legislative Branch, Committee on Appropriations, U.S. Senate.

Background

GAO's mission is to support Congress in meeting its constitutional responsibilities and to help improve the performance and ensure the accountability of the Federal Government for the benefit of the American people. We provide nonpartisan, objective, and reliable information to Congress, Federal agencies, and to the public, and recommend improvements across the full breadth and scope of the Federal Government's responsibilities.

GAO responded to requests from 90 percent of the standing full committees of the Congress in fiscal year 2018. GAO issued 633 reports, 1,650 new recommendations, and testified before 48 congressional committees 98 times. Congress used our work extensively to inform its decisions on key fiscal year 2018 and 2019 legislation. Since fiscal year 2000, GAO's work has resulted in:

—nearly $1 trillion dollars in financial benefits; and
—over 23,000 program and operational benefits that helped to change laws, improve public services, and promote sound management throughout government.

GAO remains an employer of choice in the public sector. The Partnership for Public Service announced again in 2018 that GAO one of the top places to work in the Federal Government, placing fourth position among mid-size agencies and first for supporting diversity.

View GAO–19–451T. For more information, contact Gene L. Dodaro at (202) 512-5500 or dodarog@gao.gov.

FISCAL YEAR 2020 BUDGET REQUEST

Chairman Hyde-Smith, Senator Murphy, and Members of the subcommittee, thank you for the opportunity to discuss our fiscal year 2020 budget request. I greatly appreciate the subcommittee's support of our efforts to serve the Congress and improve government performance, accountability, and transparency.

Since 2014, this subcommittee has provided funding that has resulted in our work achieving over $340 billion in financial benefits and more than 6,300 other improvements in Federal programs and operations for our government. In fiscal year 2018, GAO's work yielded a record $75.1 billion in financial benefits, a return of about

$124 for every dollar invested in GAO. We also identified 1,294 other benefits that led to improved services and public safety for the American people and program and operational improvements across the government.

For fiscal year 2020, GAO is requesting $647.6 million in appropriated funds, and authority to use $38.3 million in offsetting receipts and reimbursements, a 9.8 percent increase. These resources will fund 3,250 full-time equivalents (FTE). The funding requested will also allow us to continue to make investments in our information technology and infrastructure, security requirements, as well as address long deferred building maintenance needs.

This level of funding will enable GAO to meet the highest priority needs of the Congress, as we remain committed in helping Congress meet its constitutional responsibilities for the benefit of the American people. In fiscal year 2018, for example, we received 786 requests, including hundreds of statutory requirements, for work from 90 percent of the standing committees of Congress supporting a broad range of oversight and legislative priorities. The activities planned for fiscal year 2020 will better position GAO to assist the Congress in meeting its legislative and oversight responsibilities, accomplish our mission objectives and goals, and improve government performance and accountability.

In fiscal year 2020, we will continue to support congressional oversight across the wide array of government programs and operations. We also will continue to increase our capabilities to review the opportunities and challenges associated with evolving science and technology issues; the risks and management needs to address complex and growing cyber security developments; increased investments in the Department of Defense; and rising healthcare costs.

In January, we established a new Science, Technology Assessment, and Analytics team to continue and expand our focus on rapidly evolving science and technology issues. The team will focus on: (1) conducting technology assessments at the request of the Congress; (2) providing technical assistance to Congress on science and technology matters; (3) continuing to develop and use technical guides to assess major Federal acquisitions and technology programs in areas such as cost estimating, schedule planning and technology readiness; (4) supporting congressional oversight of Federal science programs; and (5) advancing GAO's ability to use data analytics in auditing.

We also will continue to further enhance our capacity to assess efforts to protect our Nation from cyber threats. Specifically, we recently highlighted urgent actions needed to ensure the cybersecurity of our Nation. We also renamed our Information Technology team to Information Technology and Cybersecurity in order to better reflect the significant body of work the team does on protecting Federal information systems, critical infrastructure, and individual privacy from cyber threats. GAO will also support continued congressional oversight of DoD's efforts to balance current operational deployments with fulfilling the full spectrum of future military needs, as well as the Federal Government's challenges in effectively and efficiently managing healthcare programs.

The chart below provides a summary by program for the fiscal year 2020 request.

TABLE 1: FISCAL YEAR 2018–2020 SUMMARY OF RESOURCES BY PROGRAM

[Dollars in thousands]

Program	Fiscal Year 2018 Actual		Fiscal Year 2019 Estimated		Fiscal Year 2020 Request		Net Change Fiscal Year 2019/2020	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Human capital	3,015	484,876	3,150	520,986	3,250	554,025	100 3.2%	33,037 6.3%
Engagement support		14,194		13,300		14,050		750 5.6%
Infrastructure operations		103,837		100,361		116,883		16,522 16.5%
Center for Audit Excellence		727		1,000		1,000		0 0.0%
Total budget authority	3,015	603,634	3,150	635,649	3,250	685,958	100 3.2%	50,309 7.9%
Offsets [a]		(34,566)		(45,899)		(38,321)		7,578 (16.5)%

TABLE 1: FISCAL YEAR 2018–2020 SUMMARY OF RESOURCES BY PROGRAM—Continued

[Dollars in thousands]

Program	Fiscal Year 2018 Actual		Fiscal Year 2019 Estimated		Fiscal Year 2020 Request		Net Change Fiscal Year 2019/2020	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Appropriation		$569,068		$589,750		$647,637		$57,887 9.8%

Source: GAO. I GAO–19–451T.

a Includes offsetting receipts and reimbursements from program and financial audits; rental income; training fees, collection of bid protest system user fees; supplemental funds for disaster audits; and for fiscal year 2019, carryover of fiscal year 2018 2-year funds.

MEETING THE PRIORITY NEEDS OF COMMITTEES ACROSS CONGRESS

In fiscal year 2020, we will continue to support congressional oversight across the wide array of government programs and operations. We also will continue to increase our capabilities to review the opportunities and challenges associated with evolving science and technology issues; the risks and management needs to address complex and growing cyber security developments; increased investments in the Department of Defense; and rising healthcare costs.

ASSESSING EVOLVING SCIENCE AND TECHNOLOGY ISSUES

Rapid advances in technology and science play an increasingly important role in our society. These potentially affect areas such as economic competitiveness, improved medical care and information security. The rapid development and use of these new disruptive technologies test the government's and the Congress's ability to evaluate their potential and assess their program and policy implications.

Our work has reflected the need to research and assess technology developments. In fiscal year 2018, we reported on the emergence and implications of Artificial Intelligence, the benefits, risks, and regulatory issues concerning Financial Technology (fintech), the need for revised cost estimation and scheduling policies by the National Science Foundation for large facilities, assessments of the National Aeronautics and Space Administration's (NASA) major projects, and critical infrastructure protection. We also used our technology readiness assessment best practices guide to evaluate major technical systems acquisitions such as those found at the Department of Defense (DoD), Department of Homeland Security (DHS), the Department of Energy (Energy), NASA and other agencies.[1]

To enhance our ability to provide Congress with thorough and balanced analysis of technological and scientific developments that affect our society, environment, and economy, we established the Science, Technology Assessment, and Analytics team in January 2019. Our new team will expand our support to Congress by:

— conducting technology assessments and providing technical services;
— reviewing science and technology programs and initiatives to assist in oversight of Federal investments in research, development, and advanced manufacturing;
— compiling and utilizing best practices in engineering sciences, including cost, schedule, and technology readiness assessments; and
— establishing an audit innovation lab to explore, pilot, and deploy new advanced analytic capabilities, conduct research in information assurance, and explore emerging technologies that will impact future audit practices.

Technology Assessments. Our technology assessments explain the consequences that certain technology will have on the Federal Government—and on society as a whole.

— *Economic competiveness.* Our work has covered a range of topics including artificial intelligence, connectivity and the Internet of Things, innovation in data analytics, and 3D printing.
— *Energy and the environment.* We have reported on topics like improving municipal freshwater scarcity, reducing freshwater use in hydraulic fracturing and thermoelectric power plant cooling, and climate engineering.
— *Healthcare.* We have evaluated enabling rapid diagnoses of infectious diseases and the implications of nanomanufacturing on human health. We are currently investigating the impact of artificial intelligence on healthcare.

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[1] We use these assessments in addition to two other best practices guides for capital acquisitions: life cycles cost estimating and project scheduling.

—*Homeland security.* We have examined the use of explosive detection technologies to protect passenger trains, and the use of biometrics for border security.

GAO has published a number of technology assessments on established and emerging technology. We continue to provide evidence-based analysis to assist policymakers with the privacy and security implications of technology, as well as the management of Federal investments in technology and science. We also develop best practice guides, such as our technology readiness assessment guide. Some of the key reports GAO has issued include:

TABLE 2: TECHNOLOGY ASSESSMENTS AND SCIENCE FORUMS

Technology Assessment: Artificial Intelligence: Emerging Opportunities, Challenges, and Implications GAO–18–142SP, Mar 28, 2018	Highlights of a Forum: 3D Printing: Opportunities, Challenges, and Policy Implications of Additive Manufacturing GAO–15–505SP, Jun 24, 2015
Chemical Innovation: Technologies to Make Processes and Products More Sustainable GAO–18–307, Feb 8, 2018	A Capsule Version of: Nanomanufacturing—Emergence and Implications for U.S. Competitiveness, the Environment, and Human Health GAO–14–406SP, May 19, 2014
Medical Devices: Capabilities and challenges of technologies to enable rapid diagnoses of infectious diseases GAO–17–347, Aug 14, 2017	Nanomanufacturing: Emergence and Implications for U.S. Competitiveness, the Environment, and Human Health GAO–14–181SP, Jan 31, 2014
Internet of Things: Status and implications of an increasingly connected world GAO–17–75, Published: May 15, 2017	Technology Assessment: Neutron Detectors: Alternatives to Using Helium-3 GAO–11–753: Published: Sep 29, 2011
Highlights of a Forum: Data and Analytics Innovation: Emerging Opportunities and Challenges GAO–16–659SP, Sep 20, 2016	Technology Assessment: Climate Engineering: Technical Status, Future Directions, and Potential Responses GAO–11–71, Jul 28, 2011
Technology Assessment: Municipal freshwater scarcity: Using technology to improve distribution system efficiency and tap nontraditional water sources GAO–16–474, Apr 29, 2016	Technology Assessment: Explosives Detection Technologies to Protect Passenger Rail GAO–10–898, Jul 28, 2010
Municipal Freshwater Scarcity: Survey of Technology Adoption by Municipal Water Utilities (GAO–16–588SP, April 29, 2016), an E-supplement to GAO–16–474 GAO–16–588SP, Published: Apr 29, 2016	Technology Assessment: Protecting Structures and Improving Communications during Wildland Fires GAO–05–380, Apr 26, 2005
Technology Assessment: Water in the Energy Sector: Reducing Freshwater Use in Hydraulic Fracturing and Thermoelectric Power Plant Cooling GAO–15–545, Aug 7, 2015	Technology Assessment: Cybersecurity for Critical Infrastructure Protection GAO–04–321, May 28, 2004
Technology Assessment: Nuclear Reactors: Status and Challenges in Development and Deployment of New Commercial Concepts GAO–15–652, Jul 28, 2015	Technology Assessment: Using Biometrics for Border Security GAO–03–174, Nov 15, 2002

Source: GAO. | GAO–19–451T

Management of Federal Technology and Science Programs

GAO also assess the management and coordination of Federal research and development efforts, including investments in scientific facilities (such as telescopes and research vessels) and emerging technologies (like synthetic biology and quantum computing).

Figure 1: Management of Federal Technology and Science Programs

Defense

We evaluate the technology readiness assessments and overall project execution for complex weapons systems, such as the Columbia class ballistic missile submarine, military space systems, and border security technology.

Space

We assess federal military and civilian satellite programs and efforts to support and oversee telecommunications in the public interest.
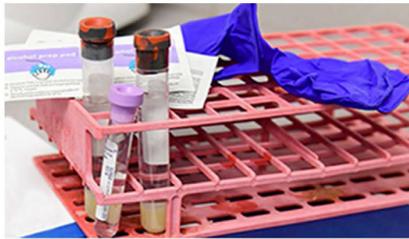

Energy and the environment

We evaluate developing and deployed technologies in a range of activities, including renewable energy, civilian nuclear power, and cleanup of hazardous waste sites.

Sources (top to bottom): GAO, NASA, and GAO. | GAO-19-451T

Figure 1: (continued) *Management of Federal Technology and Science Programs*

Nuclear

We assess programs, infrastructure, technology readiness, and operations for the maintenance and management of nuclear weapons and missiles, as well as the aircraft and ships designed to carry and deliver them.

Health care

We assess new technologies for emerging infectious diseases, such as technologies that can simultaneously test for multiple infectious diseases at or near the site of patient care, and the impacts of new technology on human health, disease prevention, and the delivery of health care.

Science and innovation

We assess programs to promote innovation (such as federal support for advanced manufacturing institutes), as well as federal policies and funding for the protection of intellectual property.

Sources (top to bottom): GAO, GAO, and NIST Manufacturing Extension Partnership. | GAO-19-451T

Ongoing and planned technology assessments in fiscal year 2019 include freshwater technologies in agriculture, the implications of artificial intelligence on healthcare, 5G wireless communications systems, and epidemiological models for emerging infectious diseases. The requested resources will enable us to expand and accelerate our work including potential technology readiness assessments of complex technical acquisitions such as nuclear modernization programs, the Army's Next Generation Combat Vehicle program, DHS border protection technologies, and Uranium Processing Facility, among others. To bolster the new team, GAO has begun efforts to recruit additional staff with expertise in:

—biological/life sciences for emerging infectious diseases, epidemiology, synthetic biology, biosafety, and biosecurity work;

—computer/systems/electrical engineering for digital and communications technologies (i.e., 5G wireless, Blockchain, quantum cryptography, artificial intelligence/machine learning systems);

—applied math/statistics/computer science for advanced analytics/data science/data engineering;

—nuclear physics for nuclear nonproliferation, waste management, weapons systems analysis, radiation/nuclear detection systems, quantum computing; and

—physics/aerospace engineering for hypersonics, advanced weapons systems, space systems, unmanned systems.

Based on interest expressed by various committees of jurisdiction, potential future work could focus on digital ledger technologies such as Blockchain, opioid-addiction vaccine development, autonomous vehicles, and regenerative medicine, among many others. Also, as we do in all areas, we will make our expert staff available to Members and staff to share knowledge and insight on technical and scientific matters.

Consistent with the 2019 Legislative Branch Appropriations Bill, Conference Report, we provided a detailed plan to this committee in March 2019. The report outlined our expanded capabilities on science and technology related issues, specific plans for additional staff and other resources, and the products and services the Team will provide to Congress. The document also describes the governance structures that will apply to the team's work, including technology assessments. To inform this plan, we conducted outreach to subject matter experts and stakeholders. These include Members of Congress, congressional committees, alumni of the former Office of Technology Assessment, major scientific associations, the National Academies, and leading science and technology policy experts in universities and non-profit institutions.[2]

ADDRESSING COMPLEX AND GROWING CYBER SECURITY THREATS

Federal agencies and the Nation's critical infrastructures—such as energy, transportation systems, communications, and financial services—are dependent on cyber information systems and electronic data to carry out operations and to process, maintain, and report essential information. Our work in cybersecurity includes:

—*Critical infrastructure protection.* We work on how to protect the Nation's critical infrastructure—including financial markets, telecommunications, the national airspace system, electricity grid, and oil and gas pipeline sector.
—*Federal information systems.* We evaluate the cybersecurity of key Federal agencies, such as the Internal Revenue Service and the Department of Homeland Security.
—*Privacy.* We evaluate Federal efforts to ensure the privacy of individuals in response to emerging technologies (such as the Internet of Things and artificial intelligence), the collection and use of personal information in the private sector through social media, and privacy in government programs (e.g., Federal student aid and Medicare).

We also will continue to further enhance our capacity to assess efforts to protect our Nation from cyber threats. Specifically, we recently updated our cybersecurity high-risk area based on our recent evaluations. We did so to highlight urgent actions that are needed by Federal agencies to ensure the cybersecurity of our Nation.[3] We also renamed our Information Technology team. Its new name, Information Technology and Cybersecurity (ITC), better reflects the significant body of work the team does on protecting Federal information systems, critical infrastructure, and individual privacy and sensitive data from cyber threats. To reinforce GAO's cybersecurity audit capabilities, the ITC team is actively recruiting additional resources, including those participating in the CyberCorps Scholarship for Service program. The new recruits will augment our cadre of experts who can assess the criticality of cyber risks, both present and future, as well as evaluate the government's complex and multi-faceted attempts to address them.

CYBER-BASED THREATS TO THE NATION'S SYSTEMS AND CRITICAL INFRASTRUCTURE

The cyberattacks suffered by the Office of Personnel Management, Equifax, and other large organizations in recent years highlight the increasing importance of cybersecurity. Threats from state and non-state actors are growing in sophistication, scope, and impact. These increasing threats could have a serious, or even potentially catastrophic, impact.

Attackers target increasing volumes of sensitive and Internet-accessible data by using ever-more powerful tools like automation, social media manipulation, vulnerability exploitation, and insider access to carry out attacks. These threats pose growing dangers for the entire Federal Government, the Nation's infrastructure and democratic processes, and the privacy and financial security of American citizens.

As Congress turns to GAO for insightful analysis and advice to address these rapidly evolving threats, recruiting top-tier cyber talent to augment our current audit workforce is critical. Additional resources will allow us to quickly expand our audit capabilities related to key components of the cyber high-risk area, including evaluating efforts to protect Federal systems, critical infrastructure, and individual privacy from cyber threats. Over the next 2 years, our planned efforts include assessing the Federal Government's efforts to establish and implement a comprehensive national cyber strategy, to evaluate government-wide initiatives to implement continuous diagnostics and monitoring capabilities, and to establish effective risk man-

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[2] As of March 15, 2019, GAO met with more than 30 expert stakeholders. GAO plans to continue to meet with stakeholders throughout the remainder of fiscal year 2019.
[3] *High-Risk Series: Urgent Actions Are Needed to Address Cybersecurity Challenges Facing the Nation,* GAO–18–622 (Washington, D.C: Sept. 6, 2018).

agement processes at Federal agencies. GAO is also evaluating key agency capabilities for responding to security incidents and data breaches, as well as assessing their security postures through detailed vulnerability assessments of agency network defenses.

Our work on the protection of critical infrastructure will continue to focus on two areas: (1) the cybersecurity of specific sectors,[4] including the electricity grid and the financial services and communications sectors, and (2) the effectiveness of the public-private partnership model as a framework for protecting the Nation's critical assets from cyber threats.

As part of our work on critical assets, we are also starting work evaluating the cybersecurity implications of the move to 5G in the communications sector. Our work on the protection of individual privacy will also continue to focus on two areas: (1) Federal efforts to protect consumers from data breaches and their after effect; and (2) whether Federal agencies are applying data protection best practices when performing their own critical mission activities.

OVERSEEING INCREASED INVESTMENTS IN THE DEPARTMENT OF DEFENSE

The Department of Defense (DoD) faces significant challenges in responding to a complex and rapidly evolving national security environment that includes instability in key regions of the world, cyber threats, and terrorist activities. As DoD works to sustain and advance its military superiority and achieve efficiencies that can be reinvested to increase readiness, it continues to undergo one of the most significant organizational realignments since the Goldwater-Nichols Act of 1986.

As you know, in support of DoD's mission, Congress entrusted DoD with considerable resources, about $686 billion in discretionary funds enacted in fiscal year 2019, and Congress has directed GAO to review a broad range of DoD's activities to assist Congress in its oversight of this investment. Since 2006, GAO's work has resulted in 4,072 recommendations to DoD designed to strengthen the department's programs and operations. These recommendations focus on critical challenges facing the department, including rebuilding readiness, managing space capabilities, strengthening cyber defenses, acquiring and sustaining major weapon systems, and addressing inefficiencies in the military health system, among others.

GAO's work has led to the designation of seven DoD areas on our High Risk List, including financial management, weapon systems acquisitions, business systems modernization, and support infrastructure management, as well as the government-wide personnel security clearance process, for which DoD has significant responsibilities. Collectively, our work has resulted in over $70 billion in financial benefits since fiscal year 2015. For example, we identified $36 billion in financial benefits from improvements to DoD's weapon systems acquisitions processes, an estimated $3.1 billion from improvements to DoD's method for setting standard fuel prices, and $849 million through identifying unexpended and unobligated balances in DoD's Military Personnel accounts.

GAO anticipates continuing to support congressional oversight of DoD by testifying during congressional hearings, providing quick-turn-around technical assistance, and issuing special oversight publications across a broad range of areas.

GAO will continue to interact extensively with committee staff on the Senate and House Armed Services Committees as they draft the annual National Defense Authorization Act, providing input on many legislative provisions based on GAO's work. For example, Congress approved a budget reduction of $1.3 billion for the Navy's frigate program, based on GAO's finding that more knowledge was needed before contracts were awarded.

GAO will also support congressional appropriators by conducting budget justification reviews on a variety of topics and defense operations and maintenance, weapon system acquisitions, personnel, and defense healthcare. GAO's review of DoD's 2019 research, development, and procurement budget request identified almost $2 billion in potential rescissions and reductions. GAO also will continue to issue annual "Quick Look" reports assessing the cost, schedule, and performance of about 80 major defense acquisition programs, helping support the Congress in overseeing the department's estimated $1.5 trillion in future spending on these systems.

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[4] Critical infrastructure includes systems and assets so vital to the United States that incapacitating or destroying them would have a debilitating effect on national security. These critical infrastructures are grouped by the following 16 industries or "sectors": chemical; commercial facilities; communications; critical manufacturing; dams; defense industrial base; emergency services; energy; financial services; food and agriculture; government facilities; healthcare and public health; information technology; nuclear reactors, materials, and waste; transportation systems; and water and wastewater systems.

GAO also continues to assess DoD's efforts to strengthen its financial management practices and efforts to obtain a clean opinion on its financial statements. DoD has never received a clean opinion on its financial statements, which prevents GAO from expressing an opinion on the consolidated financial statements of the Federal Government. Long-standing weaknesses in DoD's financial management adversely affect the economy, efficiency, and effectiveness of its operations. The same financial management problems that prevented DoD from being auditable in the past, adversely impact its operations and its ability to achieve broader business transformation goals.

We anticipate a growing demand from the Congress for GAO's work regarding DoD. In the last year, for example, Congress signaled a continued emphasis on DoD's new Chief Management Officer as the driving force behind the department's business reform efforts. We have a number of ongoing audits assessing DoD's progress in this area, including reviewing DoD's efforts to implement cross-functional business reform teams and to achieve enterprise-wide efficiencies.

GAO will also support continued congressional interest in DoD's efforts to balance current operational deployments with training and equipping forces capable of fulfilling the full spectrum of military operations. We will continue to assess DoD's efforts to sustain its major weapon systems and address challenges from aging depot maintenance facilities. We will also review the plans, organization, and capabilities of the department's cyber operations; the safety and effectiveness of the U.S. strategic nuclear force; and DoD's investments in hypersonic weapons and associated defensive systems. We also anticipate further congressional interest in DoD's long-range strike fighter and next generation air dominance acquisition efforts, as well as a broad array of space-based programs.

Regarding DoD's efforts to control costs, we plan to continue assessing the costs, schedule, and technical capabilities of the Columbia class nuclear submarine program. We also plan to assess DoD's efforts to achieve efficiencies and reduce overlap and duplication, such as across its defense agencies and field activities. We will also continue to assess the department's approach and methodologies for improving the efficiency of the military health system and determining its medical workforce needs.

We will support the Congress in assessing DoD's efforts in implementing other key legislative requirements, including acquisition reform legislation aimed at streamlining DoD's processes for buying weapon systems.

With the resources requested, GAO will expand our work within and beyond these areas, helping ensure that we address the issues most important to the Congress and taxpayer during this critical period for DoD and our country's national defense.

MANAGING RISING HEALTH CARE COSTS

Estimated at $1 trillion in fiscal year 2018, growth in Federal spending for major healthcare programs has exceeded the growth of GDP historically and is projected to grow faster than the economy. These healthcare programs include Medicare, Medicaid, and the Children's Health Insurance Program, along with Federal subsidies for health insurance purchased through the marketplaces established by the Affordable Care Act (ACA) and related spending. Federal spending also supports healthcare for American Indians, veterans, servicemembers and public health priorities, such as preventing and responding to infectious disease outbreaks and bio health threats. These Federal commitments to healthcare programs are a key driver of the nation's fiscal spending. Growth in Federal spending on healthcare is driven both by increasing healthcare spending per person and by increasing enrollment, in part stemming from the aging of the population.

The Federal Government faces challenges in effectively and efficiently managing healthcare programs. Specifically, the demands to meet Americans' health needs are growing in volume and complexity while oversight is becoming more challenging. Understanding these complexities and offering fact-based recommendations to address them requires advanced policy and analytical expertise. Congress has frequently sought our healthcare policy expertise on a range of healthcare issues. In 2018, we issued 85 products that examined access to and quality of care, drug availability and pricing, program expenditures and integrity, the protection of public health, and healthcare markets, among other topics. We made 123 recommendations to improve the efficiency and effectiveness of Federal healthcare spending, and documented about $40 billion in savings in 2018 alone by agencies taking action on our recommendations.

GAO has also focused on healthcare issues through its biennial High Risk Report. With our 2017 High Risk Update, we designated the Indian Health Service (IHS) as high-risk. This area joins four other high-risk areas related to healthcare: Medi-

care, Medicaid, the Food and Drug Administration, and Department of Veteran Affairs (VA) Health Care.

In addition to these audit products, we annually respond to dozens of requests for informal assistance regarding Federal healthcare policy and programs. The demand for this type of assistance continued in 2018, as committees considered evolving and complex healthcare policy changes. These requests ranged from making our subject matter experts available to answer detailed questions about the interworking of programs to providing time-sensitive data analysis.

Our healthcare policy experts also advise me on my statutory responsibilities for appointing members to six different health-related commissions.[5] Carefully considering each appointment to these commissions requires a high-degree of professional judgment and subject matter expertise and demands a significant investment of time by our healthcare senior executives.

Additional resources for our healthcare work would not only allow us to respond more quickly to congressional requests, it would allow us to expand our work on the drivers of healthcare costs. For example, the continued growth of the Medicare and Medicaid programs drives Federal spending on healthcare and these programs are expected to place additional strain on the Federal budget in the coming years, as each program is projected to top $1 trillion in annual expenditures within the next decade.

With decades of experience, our expertise positions us to examine the growth of Medicare spending relative to other components of the healthcare system (e.g., inpatient and post-acute care) and ask which is growing higher and faster. Our expertise also positions us to examine the incentives created by certain Medicare payment policies that drive excess and inappropriate utilization of services. Furthermore, our staff's Medicaid expertise positions us to explore issues like access, financing arrangements, delivery, and program integrity, all critical issues that are made more complex by the variation among state Medicaid programs.

In addition to examining the sustainability of these large Federal healthcare programs, we would continue to examine how these healthcare programs and markets affect the daily lives of Americans and communities. For example, given:

—The complexities of the prescription drug market, we would continue to provide objective, unbiased examinations of trends in drug costs and identify options to control these costs.
—Congressional interest and the ongoing opioid epidemic, we would expand our work examining the Federal Government's effort to curb drug misuse.[6]
—Our high-risk designation of veterans' healthcare issues, we would provide real-time assessments of significant VA initiatives in these areas.

GAO INFORMATION TECHNOLOGY AND BUILDING INFRASTRUCTURE

The resources we received for fiscal year 2019, and request for fiscal year 2020, will allow GAO to make strategic investments in information technology (IT), and GAO's facilities infrastructure. Funding in these areas enables GAO to make sound capital investments in new technology and address important funding requirements in support of our building facilities that will increase efficiency, lower operating costs, and allow us to increase our rental revenue.

Information Technology. GAO has a range of business applications, many of which rely on outdated technologies. A multi-year, multi-phase effort to improve our aging IT infrastructure is underway. This effort will allow us to further streamline business operations, increase staff efficiency and productivity, improve access to information, and facilitate a more agile and mobile workforce, all in a more secure environment. This modernization effort will include several components, some of which are discussed below.

In fiscal year 2019 and fiscal year 2020, we will:

—Continue our efforts to modernize content development, distribution, and publishing our reports. This effort, New Blue, will allow our reports to be formatted for and consumed on any Internet-connected device. GAO will be publishing reports from each mission team in preparation for full deployment. Initial stakeholder feedback from congressional staff on New Blue has been very positive,

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[5] GAO has responsibility for appointing members to six healthcare commissions, including the Health Information Technology Advisory Committee; Medicaid and CHIP Payment and Access Commission; Medicare Payment Advisory Commission; Patient-Centered Outcomes Research Institute (PCORI) Governing Board; PCORI Methodology Committee; and the Physician-Focused Payment Model Technical Advisory Committee.

[6] Congress directed GAO to conduct over a dozen studies in the 2018 Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities Act.

specifically, the ability to access GAO products remotely for use during congressional hearings.

—Finish rolling out cloud-based technology to provide enhanced Unified Communication Tools (UCT) and collaboration capabilities within GAO for an increasingly mobile workforce. UCT supports our mobile workforce/virtual presence goals to reduce the need for travel among field offices and headquarters, in addition to audit locations. This effort will modernize our suite of telecommunications tools, which will facilitate greater video conferencing, audio, data sharing, reduce redundant implementation and maintenance costs, and standardize the infrastructure that supports voice and data usage. In addition, this effort will migrate telecommunications infrastructure to a cloud hosted solution, which will reduce expenditures and fully integrate with enhanced collaboration tools.

—Deploy a cloud-based Web Content Management solution for GAO's external web site, www.gao.gov, which will better enable mobile content and increase customer satisfaction.

—Upgrade the virtual desktop infrastructure [7] to be more responsive to staff needs and better enable staff to conduct analysis and develop content. This effort will include upgrading the operating environment on our desktops to Windows 10 prior to Windows 7 being sunset in 2020.

—Implement software enhancements to automate and improve how GAO receives complaints regarding fraud, waste, and abuse through GAO's Fraudnet portal.

—Define the requirements to replace our decades old document and records management system, which houses the supporting documentation for our audit engagements and operational support programs. We are looking to move to a cloud-based Enterprise Content Management solution that provides enhanced functionality, including security, knowledge management, workflow automation, and business process management.

This solution will improve existing document and records management capabilities, and will do so with less administrative burden on employees. In addition, the solution will radically improve our ability to share knowledge across the agency and automate many routine workflows for engagement management and execution as well as for internal operations. This will free staff to focus their energies on content development and client and customer service. We expect to acquire and begin implementation of the solution in fiscal year 2020.

—Replace the agency's outdated Learning Management and Performance Management systems with a cloud-based Talent Management information system to track and manage training and development activities of GAO staff.

We also plan to expand our IT capacity to meet the demands of a larger GAO staff and support the new STAA Team and Audit Innovation Lab.

Facilities and Security. While most of GAO's staff is located at its Headquarters in Washington, DC, GAO maintains a presence in strategic locations throughout the country. GAO is always working to ensure our headquarters and field office locations operate as efficiently as possible, and we continue to reduce our real property footprint as we identify opportunities.

In fiscal year 2018, GAO consolidated space in its headquarters building to maximize efficiency, freeing up over 40,000 square feet for use by another Federal agency and increasing GAO's rental income. In a further effort to cut costs and reduce our real estate footprint, GAO is strategically moving its field offices into federally owned space as commercial leases expire. For example, GAO recently moved its San Francisco Office from a commercial lease in the financial district to a Federal building in Oakland.

Over the next 2 years, GAO is also looking at options to relocate staff in Los Angeles and Chicago from commercial buildings. GAO is requesting additional funding related to these office moves to ensure we have funding needed for fixed costs related to moves and other expenses related to the office transitions. In addition, as reported in our fiscal year 2018 financial statements, GAO has over $29 million of deferred but necessary maintenance at its headquarters building. This includes heating and air conditioning infrastructure and major electrical equipment that are original to our 67-year old building and past their useful life. Additional funds will help enable this work and protect these valuable assets from quickening deterioration.

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[7] Virtual desktop infrastructure (VDI) is virtualization technology that hosts a desktop operating system on a centralized server in a data center.

Increased Classified Work. In recent years, GAO has received an increasing number of mandates and congressional requests for reviews that require GAO staff to have access to classified agency information, as well as reviews that require accessing information at higher classification levels. Further, GAO's Procurement Law division hears bid protests that involve classified information as part of its statutory responsibility for adjudicating bid protests of government contracts.

Given this increased demand, GAO began making corresponding infrastructure investments in fiscal year 2017 and fiscal year 2018. For example, GAO has increased the size of its secure space available in its headquarters for processing classified information at both the Secret and Top Secret and Sensitive Compartmented Information levels.

Additional funds in fiscal year 2020 will help enable GAO to make further cost-effective technological and infrastructure improvements to support the anticipated increase in work involving classified information, such as

—upgrading and deploying additional secure video teleconference equipment for field offices;
—a new case management system to more efficiently track personnel security clearances;
—a new Classified Enterprise Content Management solution to enhance processing of classified products; and
—networked Top Secret and Sensitive Compartmented Information computer processing capabilities.

ASSISTING THE CONGRESS IN SHAPING LEGISLATION

GAO continues to be recognized for its non-partisan, objective, fact-based, and professional analyses across the full breadth and scope of the Federal Government's responsibilities and the extensive interests of Congress.

Since our last budget request, Congress used GAO's work to make important legislative decisions. Examples linked directly to GAO's work include:

—*The Consolidated Appropriations Act of 2019.* Based on GAO work, Congress directs:
  —DoD to (1) mitigate the effects of flooding on roads and infrastructure on domestic installations that are vital to military operations; and (2) improve oversight of its global real property portfolio;
  —VA to (1) modernize and improve its appeals process; (2) improve the accuracy and fairness of Gulf War illness claims; (3) retrofit facilities to eliminate barriers to care for women veterans; (4) report on progress to improve oversight of the controlled substance inspection program; and (5) improve staffing, recruitment, and retention strategies for physicians;
  —DOE to (1) better account for fraudulent spending or other improper payments; (2) improve contract auditing and the tracking of meaningful data for fraud, waste, and abuse in its contracts; and (3) improve the Office of River Protection's ability to carry out oversight of its contractors' quality assurance programs.

—*The National Defense Authorization Act for Fiscal Year 2019.* Reflecting our past work, the Congress directs DoD to:
  —develop a plan to rebuild military readiness in 5 warfighting domains, including ground, air, sea, space, and cyberspace, as well as requiring GAO to annually review the department's plan through 2022;
  —provide military servicemembers with training to enhance their employability within 1 year prior to their separation, and improve related performance reporting and monitoring;
  —require the Navy to provide detailed budget information for multi-billion dollar aircraft carrier dismantlement and disposal activities; and
  —require the Secretary of Defense to designate a component responsible for coordinating efforts to acquire a modernized Global Positioning System receiver, to maximize the government's return on a multi-billion dollar investment.

—In addition, a House report accompanying the Act directs DoD to:
  —use policy and technological solutions to manage risk and secure classified information and systems to counter insider threats; and
  —urge the Secretary of the Air Force and Secretary of the Navy, in concert with the F–35 Joint Program Office, to reduce F–35 sustainment costs.

—*The Good Accounting Obligation in Government Act (GAO–IG Act).* Signed into law on January 3, 2019, the act requires certain Federal agencies:

—to include a report in their annual budget justification that identifies the implementation status of each public GAO recommendation that has been outstanding for at least 1 year and that not been implemented.[8]

—*The 2018 Omnibus Appropriations Act.* Based on GAO's work, the Congress directs:

—the Veterans Health Administration (VHA) to research the overmedication of veterans that led to deaths, suicides, and mental health disorders;
—DoD to align its (1) structure, (2) statutory parameters, and (3) regulatory guidance across Federal prescription drug buying programs to increase its buying power and reduce costs;
—DHS to (1) develop performance metrics for all deployed border security, (2) evaluate the individual and collective effect of deployed technologies, and (3) assess progress;
—DHS to regularly assess advanced protective technologies for cybersecurity; and
—Federal agencies, such as DoD, National Cybersecurity and Communications Center, and Bureau of Indian Affairs, to report on how they plan to implement GAO recommendations.

—*The National Defense Authorization Act for Fiscal Year 2018.* Reflecting our past work, the Congress directs DoD to:

—improve its budget guidelines, cost savings, leadership of business operations, military readiness goals and implementation strategies, and reduce vulnerabilities in military aircraft and risks to military installations from climate change;
—increase reporting on the *Columbia* class nuclear submarine to keep the program on track;
—change its space leadership structure;
—reinstate annual reports on the time required to conduct investigations, adjudicate cases, and grant security clearances; and
—establish new ways for agencies to modernize their legacy information technology.

—*The Disaster Recovery Reform Act of 2018.* In October 2018, based in part on GAO's work, Congress passed the 2018 Disaster Recovery Reform Act, which directs the Federal Emergency Management Agency (FEMA) to:

—develop a National Public Infrastructure Pre-Disaster Mitigation fund to allow for a greater investment in building resilience before a disaster occurs;
—make Federal disaster assistance available to State and local governments for building code administration and enforcement;
—reconsider the factors it uses to evaluate a jurisdiction's request for a major Federal disaster declaration; and
—update Congress on the development of a national preparedness assessment and efforts to avoid duplication across preparedness grants.

Federal funding for disaster assistance since 2005 is approaching half a trillion dollars (about $430 billion), most recently for hurricanes and wildfires in 2017 and 2018. These costs are expected to increase as extreme weather events become more frequent and intense. Increasing reliance on Federal assistance is a key source of Federal fiscal exposure. Since adding limiting the Federal Government's exposure by better managing climate change risks to our High Risk List in 2013, we have made several recommendations to help improve resilience to potential disasters.

FINANCIAL AND PROGRAM BENEFITS

Financial Benefits. In fiscal year 2018, financial benefits resulting from our work included (1) revising spending limits for Medicaid demonstration projects to assure that they are budget-neutral ($36.8 billion); (2) helping the Centers for Medicare & Medicaid Services (CMS) achieve and measure the benefits of its fraud prevention system ($1.3 billion); (3) identifying unexpended and unobligated balances in selected DoD accounts and proposing changes in its fuel pricing methodology ($5.3 billion); and (4) identifying unexpended and unobligated balances in DoD's Military Personnel accounts ($849 million).

Other Benefits. Many other benefits resulting from our work led to program and operational improvements. In fiscal year 2018, we recorded 1,294 of these other benefits. For example, our work on public safety and security:

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[8] For GAO's own reporting in response to the GAO–IG Act, see page 30.

—positioned U.S. Customs and Border Protection to better protect U.S. manufac-
turers from economic harm and U.S. consumers from potential risks posed by
counterfeit products sold online;

—resulted in comprehensive ready-for-sea inspections of Navy ships based in
Japan and changes to sleep schedules after deadly collisions in the Pacific high-
lighted training, maintenance, and manning shortfalls that had contributed to
insufficient sleep time for sailors;

—led the Transportation Security Administration (TSA) to begin updating and im-
proving the risk assessment and strategy it uses to (1) secure airport perim-
eters, and (2) control access to restricted areas to better assess security issues
at airports nationwide; and

—prompted the Department of Justice (DOJ) and the Office of National Drug
Control Policy to begin developing results-oriented measures, such as reductions
in overdose deaths, to help them assess progress made in combatting the Na-
tion's opioid epidemic.

Similarly, our work related to vulnerable populations:

—contributed to the Congress passing legislation to strengthen the Nation's data
on elder abuse by requiring annual data collection and reporting to support na-
tional prevention policy; and

—led the Federal Communications Commission to begin measuring the effective-
ness of industry efforts to prevent wireless network outages helping to ensure
that Americans who rely solely on them have access during emergencies.

In addition, our work in the healthcare area:

—prompted the Indian Health Service (HIS) to publish wait-time standards for
primary care and urgent care visits to help it monitor patient access to care;

—led CMS to establish regular checks for identifying duplicate health coverage in
both Medicaid and the health insurance exchange marketplaces, thereby help-
ing to minimize the risk of the Federal Government paying twice for an individ-
ual's health insurance coverage; and

—prompted the Food and Drug Administration (FDA) and Drug Enforcement Ad-
ministration to formalize procedures for sharing information that would allow
FDA to better manage drug shortages.

Furthermore, our work in the area of agency operations:

—led FEMA to (1) pilot a data sharing process with States to allow it to identify
potentially duplicative disaster assistance payments, and (2) make plans to cre-
ate a similar process to manage future disasters;

—prompted the Office of the Director of National Intelligence to issue formal guid-
ance and implementation guidelines to help Federal agencies continually assess
their employees' eligibility to hold security clearances and to do so uniformly;
and

—prompted the Congress to require Federal agencies to inform active duty mili-
tary servicemembers of their eligibility to receive student loans at a 6 percent
interest rate to better ensure timely access to these loans and prevent overpay-
ments.

EVALUATING FEDERAL DISASTER RESPONSE AND RECOVERY ISSUES

The Supplemental Appropriations for Disaster Relief Requirements Act of 2017
provided GAO with $14 million to conduct unanticipated disaster oversight and
audit work associated with the catastrophic hurricanes and wildfires in 2017. GAO
is evaluating a variety of topics including disaster contracting, response challenges,
progress in multiple Federal recovery programs, fraud prevention and internal con-
trols, and is identifying recommendations to improve Federal actions in all these
areas.

So far, GAO has completed 11 disaster-related reports and has 25 additional ongo-
ing audit engagements. Specifically, we have reported on the initial Federal efforts
to respond to Hurricanes Harvey, Irma, and Maria, as well as the California
wildfires. We have also reported on disaster-related Federal spending and identified
a number of long-term recovery challenges in disaster-impacted areas, such as Puer-
to Rico and the U.S. Virgin Islands. Further, we identified challenges related to
FEMA's disaster workforce and recommended actions to address weaknesses in Fed-
eral disaster contracting practices.

Figure 2: Damaged Power Lines and Satellite Dish in Puerto Rico after Hurricane Maria in November 2017

Source: Federal Emergency Management Agency. | GAO-19-451T

In regard to ongoing work, we are evaluating disaster recovery programs for individuals and those with disabilities, efforts to strengthen disaster resilience and better prepare for future disasters, and efforts to restore the power grid in Puerto Rico, among other issues. Given the number of ongoing engagements and our reporting schedule, we anticipate that GAO will use all of the $14 million in disaster funds by the end of fiscal year 2020. A complete list of the reports issued and audits currently underway is included as Enclosure II.

Figure 3: Nonprofit Volunteer Team Clearing Debris in Big Pine Key, Florida after Hurricane Irma

Source: GAO. | GAO-19-451T

BUILDING BODIES OF KNOWLEDGE

Through the products we issued in fiscal year 2018, we continued to build on bodies of work related to our three broad strategic goals to (1) address current and emerging challenges to the well-being and financial security of the American people; (2) help the Congress respond to changing security threats and the challenges of global interdependence; and (3) help transform the Federal Government to address national challenges. Examples include:

—*Protection of children.* We reported on the need to (1) improve Federal support to help states recruit and retain foster care families to meet demand; (2) develop guidance for states to help them better apply protections for substance-affected infants; (3) consider discipline disparities for Black students, boys, and students with disabilities in K–12 public schools; and (4) update guidance to better monitor lead in school drinking water.

—*Support of Veterans.* We reported on the need for VA to improve its oversight and evaluation of the effectiveness of its suicide prevention outreach activities. We found that VA's outreach activities dropped off in 2017 and 2018, and the office responsible for these activities lacked consistent leadership. We also found that VA did not have clear goals for evaluating the effectiveness of its outreach activities.

We also reported on the need for (1) DoD to improve its monitoring of and reporting on its transitioning veterans program; (2) VA to further assess its performance and progress toward meeting its opioid safety goals for veterans; and (3) VHA to collect better data and evaluate its strategies for improving physician staffing, recruitment, and retention.

—*Advancement of healthcare.* We reported on the need to (1) better secure the electronic health information of Medicare beneficiaries; (2) improve Federal oversight of the health and welfare of beneficiaries receiving Medicaid assisted living services; and (3) improve assessments of individuals' needs for home and community based services.

—*Oversight of military readiness.* We continued to monitor DoD's efforts to re-build military readiness and reported on the need to (1) better plan for sustaining various military aircraft, including the new F–35; (2) reassess the utilization and organization of the Air Force F–22 Raptor fleet; (3) improve maintenance of the Navy's submarine fleet and the Army's Patriot missile defense system; and (4) clarify policies and gather reliable data to manage the impact of time away from home on service members and their families.

—*Assessment of technology and science.* We reported on (1) Artificial Intelligence applications in four areas—cybersecurity, automated vehicles, criminal justice, and financial services; (2) sustainable chemical innovation, new approaches that improve the chemistry behind medicines, personal care products, and other everyday items to reduce environmental impacts; (3) technologies to mitigate electromagnetic risks to the U.S. electric grid; and (4) quantum computing, synthetic biology, and other potentially transformational research and considerations for U.S. competitiveness.

—*Designation of High Risk areas.* In our latest March 2019 update, the ratings for seven areas improved, two to the point of coming off the list—Department of Defense Supply Chain Management and Mitigating Gaps in Weather Satellite Data. The rankings for more than half of the over 30 areas on the list remained largely unchanged with three regressing. We also added VA Acquisition Management to the list after identifying seven VA contracting challenges. VA has one of the most significant acquisition functions in the Federal government, in costs and numbers of contracts. Another issue—the Government-wide Personnel Security Clearance Process—was added to the list in January 2018 due to growing concerns about security clearance backlogs and other problems.

In fiscal year 2018, our high-risk work in 35 areas resulted in 166 reports, 49 testimonies, $46.8 billion in financial benefits, and 526 other benefits. Financial benefits to the Federal Government due to progress in addressing high-risk areas over the past 13 years (fiscal year 2006 through fiscal year 2018) totaled nearly $350 billion or an average of about $27 billion per year. The updated list is included as Enclosure I.

—*Identification of Fragmentation, Overlap, and Duplication.* Our eighth annual report identified 68 new actions across 23 new program areas that could reduce fragmentation, overlap, and duplication, or provide other cost savings and revenue enhancement opportunities across the Federal Government. Congress and executive branch agencies addressed 724 of the actions identified from 2011 to 2017, leading to about $178 billion in financial benefits; $125 billion had accrued through 2017, with $53 billion more expected. An updated Fragmentation, Overlap, and Duplication report will be issued May 2019.

FOCUSING ON CONGRESSIONAL PRIORITIES

Serving Our Clients. In fiscal year 2018, we issued 633 reports and made 1,650 new recommendations. Our senior executives were asked to testify 98 times before 48 separate committees or subcommittees on topics including key risks for the 2020 Census, improper payments under Medicaid, national defense preparedness, border security, and the Nation's cybersecurity challenges. The table that follows lists examples of topics GAO addressed in testimony in fiscal year 2018, grouped by our three external strategic goals.

TABLE 3: SELECTED GAO FISCAL YEAR 2018 TESTIMONIES

Goal 1: *Address Current and Emerging Challenges to the Well-Being and Financial Security of the American People*

—Observations on DOJ's Grantees' Capacity to Process DNA Evidence
—Observations on the Supplement Nutrition Assistance Program
—Improving DoD's Oversight of its Program for Transitioning Veterans
—Observations on the Strategic Petroleum Reserve's Emergency Stockpile
—Addressing DOE Management Challenges
—Implementing Positive Train Control
—Addressing Native American Youth in the Justice System
—Reducing Risk of Harm to Medicare Beneficiaries from Prescription Opioids

—Improving the Transfer and Monitoring of Unaccompanied Children

—Improving Federal Management of Indian Programs
—Improving Oversight of VA Health Care Providers

Goal 2: *Respond to Changing Security Threats and the Challenges of Global Interdependence*

—Addressing Longstanding Management Challenges for Immigration Courts
—Improving Management of the Coast Guard's Acquisition Portfolio
—Securing the Southwest Border—Progress and Challenges
—Improving Navy and Marine Corps Plans to Train for Amphibious Operations
—Enhancing Information Sharing with Private Sector on the Counterfeits Market

—Improving Oversight of the Antiterrorism Assistance Program
—Using TSA Data to monitor Airport Operations Including Passenger Wait Times
—Preliminary Observations on Reported Injuries to U.S. Personnel in Cuba
—Monitoring Inter-American Assistance Agreements and U.S. Contributions
—Improving Management of DHS' Chemical Facility Security Program
—Improving VA's Medical and Surgical Supply Contracts to Reduce Cost

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Goal 3: *Help Transform the Federal Government to Address National Challenges*

—Addressing Physical Security Challenges at NIST and Commerce
—Implementing High-Risk Recommendations for IT Acquisitions, Operations, and Cybersecurity
—Mitigating Key Risks for 2020 Census
—Improving Federal Regulatory Guidance Practices
—Addressing DHS' Urgent Cybersecurity Workforce Needs
—Addressing Cost Growth and Schedule Delays in NASA's Major Projects
—Improving Management of Medicare's Fraud Risks

—Addressing Management Challenges Presented by
—Budget Uncertainty
—Preparing for VA's Transition to a New Electronic Health Record System
—Improving Government Efficiency and Effectiveness to Reduce Federal Costs
—Observations on USPTO's Covered Business Method Patent Review Program
—Addressing Delays in NASA's Commercial Crew Program
—Observations on Challenges and Opportunities for Grants Management

Source: GAO|GAO–19–451T

Outreach Efforts. I continued my regular meetings with the Chairs and Ranking Members of congressional committees to obtain their views on GAO's work, including their priorities, and to discuss opportunities and challenges facing our Nation.

I also sent letters to the heads of most Federal departments to acknowledge the actions taken to date to implement our prior recommendations and to draw their attention to priority recommendations still requiring their attention. These letters were also sent to the congressional committees of jurisdiction to inform their oversight.

We continue to collaborate with the Congress to revise or repeal mandated reporting requirements to align our work with current congressional priorities and maximize our staff resources.

INTERNAL IMPROVEMENTS

Supporting Our People. The hard work and dedication of our diverse and professional multidisciplinary staff positioned GAO to achieve 97 percent on-time delivery of our products in fiscal year 2018. We exceeded the targets for our seven people measures, new hire rate, retention rates with and without retirements, staff development, staff utilization, effective leadership by supervisors, and organizational climate. GAO also continued its distinction as a best place to work—the Partnership for Public Service ranked GAO fourth among mid-size Federal agencies and first for supporting diversity.

Managing Our Internal Operations. In fiscal year 2018, we continued efforts to maximize our strategic goal to maximize our value by enabling quality, timely service to the Congress and being a leading practices Federal agency. We made progress

addressing our three internal management challenges: managing a quality work-force; improving the efficiency of our engagements; and ensuring the confidentiality, integrity, and availability of GAO's information technology services. We are on track to achieve 3,150 FTE in our fiscal year 2019 hiring plan and expect to have over 3,250 staff on board at year-end.

In fiscal year 2018 GAO deployed the Electronic Protest Docketing System (EPDS), made key security investments, and refreshed technology platforms needed to support our bid protest work.[9]

As previously mentioned, in fiscal year 2019, we will complete the pilot of New Blue, a system that will allow analysts to more efficiently create and manage report content; streamline the publishing processes; and enable access on mobile devices. New Blue is planned to be rolled out across GAO following the conclusion of the pilot. If you are interested in reviewing a GAO product in the new format, please see GAO–18–312.

To enhance information technology services, we continued to strengthen monitoring and detection of malicious activity to counter escalating cybersecurity threats.

In keeping with our effort to continuously improve our operations, GAO migrated to the Legislative Branch Financial Management System (LBFMS) Momentum Financial operated by the Library of Congress. The system serves as our integrated Financial Management System and is hosted in a FedRAMP compliant and secure facility. LBFMS improved internal controls over invoicing processing, reduced data entry errors, and increased efficiency and timeliness of payments.

GAO also received an unmodified or "clean" opinion from independent auditors on our financial statements for fiscal year 2018 and our internal control over financial reporting. Independent auditors found no reportable noncompliance with provisions of applicable laws, regulations, contracts, and grant agreements tested. We demonstrated that all detailed performance and financial information is complete and reliable and meets high standards for accuracy and transparency.

GOOD ACCOUNTING OBLIGATION IN GOVERNMENT ACT REPORTING

With regard to the recommendations from GAO's Office of the Inspector General (OIG), GAO has implemented all of the recommendations issued by the OIG prior to January 2018. Additionally, GAO has determined that it will implement the three open OIG recommendations that have been issued within the past 12 months and expects that implementation will be completed within calendar year 2019.

LEGAL WORK

In fiscal year 2018, we addressed about 2,600 bid protest cases and issued more than 600 decisions on the merits. In addition, we published 15 appropriations law products, including five products to carry out GAO's responsibilities under the Impoundment Control Act regarding the President's special message of May 2018.

STRATEGIC PLANNING

GAO issued its latest Strategic Plan for Serving the Congress and the Nation in February 2018, covering fiscal years 2018 to 2023. As the Nation confronts a series of both new and long-standing challenges, this plan describes our goals and strategies to support the Congress to identify cost savings and other financial opportunities; to make government more accountable, efficient and effective; and ultimately to improve the safety, security, and well-being of the American people. GAO's Strategic Plan provides a comprehensive roadmap for how the agency will support the most important priorities of Congress and the American people.

This plan reflects the full scope of the Federal Government's operations, as well as emerging and future trends that may affect government and society. As part of our strategic planning process, we emphasize foresight, continuous environmental scanning, and trend analysis as essential to helping inform our decisionmaking and long-term planning.

The plan is comprised of three sections: strategic goals and objectives; key efforts; and trends that provide overall context supporting our long- range planning. The current strategic plan framework (Enclosure III) summarizes these global trends affecting government and society, as well as the strategic goals and objectives that guide our work.

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[9] The Consolidated Appropriations Act, 2014, included a provision for GAO to develop an electronic bid protest filing system. The statute also authorized the collection and use of fees to offset the costs of that system. GAO successfully piloted and launched its new system, EPDS, in 2018.

There are eight trend areas in GAO's 2018—2023 plan including:

1. *Domestic and Global Security:* Global conditions affecting U.S. and international security;
2. *Fiscal Outlook and the Debt:* The Federal Government's long-term unsustainable fiscal path;
3. *Economics and Trade:* Global response to challenges posed by divergent economic growth;
4. *Jobs and Education:* Technological advances and their impact on preparing the workforce of the future;
5. *Demographics and Society:* Demographic changes and their implications for U.S. society and economy;
6. *Science and Technology:* Five emerging technologies and scientific advances that could potentially transform society (Genome Editing; Artificial Intelligence and Automation; Quantum Information Science; Brain/Augmented Reality; and Cryptocurrencies and Blockchain);
7. *Government and Governance:* Increasingly complex governance relationships and practices; and
8. *Environment and Sustainability:* Balancing competing natural resource and sustainability needs.

CENTER FOR AUDIT EXCELLENCE

The Congress authorized GAO to establish a Center for Audit Excellence (the Center) in 2014 to provide training and technical assistance to enhance the capacity of domestic and international accountability organizations. GAO contributes to a number of efforts that promote good governance and enhance the capacity of the accountability community. The Center uniquely offers a wide range of training and technical assistance services at locations throughout the United States and the world. The Center is authorized to charge fees for its services to facilitate recovery of its costs.

Since its opening in October 2015, the Center has expanded its volume of business significantly and increased annual revenue from $41,000 in fees in fiscal year 2016 to $624,000 in fiscal year 2018. Further, the Center has provided training or technical assistance services to over two dozen Federal, State, local and international accountability organizations. Several of these organizations have returned to the Center repeatedly for training and technical assistance services to help build staff capacity in applying auditing concepts and tools.

In fiscal year 2018, the Center provided training and technical assistance to 12 domestic audit organizations, including Federal inspectors general and State and local audit offices. Center services helped these organizations improve their staff members' understanding of Federal internal control standards, Government Auditing Standards, and performance audit methodologies. For example, the Center provided 10 classes on internal control to one Federal audit organization. Based on formal and informal feedback, the vast majority of training participants found Center training to be greatly useful.

The Center also provided technical assistance to three national audit institutions in Europe and Central America during fiscal year 2018 to enhance their capacity to conduct and achieve results from performance audits. For example, the Center helped a national audit institution in Eastern Europe enhance its capacity to conduct information technology audits and helped another national audit institution assess and improve its process for documenting financial benefits resulting from audits. The Center also provided technical assistance on a project funded by the Millennium Challenge Corporation to help enhance the performance audit capacity of a national audit institution in Central America.

In April 2016, the Center signed a Memorandum of Understanding (MOU) with the U.S. Agency for International Development (USAID) to collaborate in enhancing audit capacity and accountability in developing countries. In fiscal year 2018, under the MOU, the Center assessed the capacity building needs of an African country's audit institutions for USAID and identified areas for improvement. In November 2018, the Center signed an agreement with USAID/Philippines to provide training and technical assistance services to the Philippine Commission on Audit to strengthen their capacity to conduct performance audits. USAID expects the total estimated cost of the 3-year project to be $1.48 million and has obligated $500,000 for services to be provided by the Center in the first year.

The Center continues to implement its business plan and look for additional ways to build on its accomplishments and strengthen the capacity of accountability partners to enhance the oversight of U.S. Federal funds used domestically and across the globe. For example, during fiscal year 2019, the Center plans to expand its

international work further by leveraging its MOU with USAID and expanding partnerships with other organizations such as the World Bank.

CONCLUDING REMARKS

We value the opportunity to provide Congress and the Nation with timely, insightful analysis on the challenges facing the country. I would like to thank the Committee again for its support of GAO and the fiscal year 2019 budget. Our fiscal year 2020 budget requests the resources to ensure that we can continue to address the highest priorities of the Congress.

Our request will allow us to continue building our staffing level and provide our employees with the appropriate resources and support needed to serve the Congress effectively. This funding level will also allow us to continue efforts to promote operational efficiency and address long-deferred information technology investments and maintenance. We will also continue to explore opportunities to generate revenue to help offset our costs.

I appreciate, as always, your careful consideration of GAO's budget and your continued support.

ENCLOSURE I: GAO'S 2019 HIGH RISK LIST

High Risk Area	Year Designated
Strengthening the Foundation for Efficiency and Effectiveness	
Improving Federal Programs that Serve Tribes and Their Members [a]	2017
2020 Decennial Census [a]	2017
U.S. Government's Environmental Liability [a]	2017
Improving the Management of IT Acquisitions and Operations	2015
Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks [a]	2013
Management of Federal Oil and Gas Resources	2011
Modernizing the U.S. Financial Regulatory System [a]	2009
Restructuring the U.S. Postal Service to Achieve Sustainable Financial Viability [a]	2009
Resolving the Federal Role in Housing Finance [a]	2013
Funding the Nation's Surface Transportation System [a]	2007
Managing Federal Real Property	2003
Strategic Human Capital Management	2001
Transforming DoD Program Management	
DoD Approach to Business Transformation	2005
DoD Support Infrastructure Management [a]	1997
DoD Business Systems Modernization	1995
DoD Financial Management	1995
DoD Weapon Systems Acquisition	1990
Ensuring Public Safety and Security	
Government-wide Personnel Security Clearance Process (new) [a]	2018
Protecting Public Health through Enhanced Oversight of Medical Products	2009
Transforming EPA's Processes for Assessing and Controlling Toxic Chemicals [a]	2009
Ensuring the Effective Protection of Technologies Critical to U.S. National Security Interests [a]	2007
Improving Federal Oversight of Food Safety [a]	2007
Strengthening Department of Homeland Security Management Functions	2003
Ensuring the Cybersecurity of the Nation [a]	1997
Managing Federal Contracting More Effectively	
VA Acquisition Management (new)	2019
DoD Contract Management	1992
DOE's Contract Management for the National Nuclear Security Administration and Office of Environmental Management [a].	1990
NASA Acquisition Management [a]	1990
Assessing the Efficiency and Effectiveness of Tax Law Administration	
Enforcement of Tax Laws [a]	1990
Modernizing and Safeguarding Insurance and Benefit Programs	
Managing Risks and Improving VA Health Care [a]	2015
National Flood Insurance Program [a]	2006
Improving and Modernizing Federal Disability Programs	2003
Pension Benefit Guaranty Corporation Insurance Programs [a]	2003
Strengthening Medicaid Program Integrity [a]	2003

High Risk Area	Year Designated
Medicare Program & Improper Payments [a]	1990

Source: GAO. | GAO–19–451T
[a] Legislation is likely to be necessary in order effectively address this area.

ENCLOSURE II—FEDERAL DISASTER RESPONSE AND RECOVERY ENGAGEMENTS

COMPLETED ENGAGEMENTS

Disaster Assistance: Opportunities to Enhance Implementation of the Redesigned Public Assistance Grant Program. GAO–18–30, November 8, 2017.

2017 Disaster Contracting: Observations on Federal Contracting for Response and Recovery Efforts. GAO–18–335, February 28, 2018.

Federal Disaster Assistance: Individual Assistance Requests Often Granted but FEMA Could Better Document Factors Considered. GAO–18–366, May 31, 2018.

2017 Hurricanes and Wildfires: Initial Observations on the Federal Response and Key Recovery Challenges. GAO–18–472, September 4, 2018.

Homeland Security Grant Program: Additional Actions Could Further Enhance FEMA's Risk-Based Grant Assessment Model. GAO–18–354, September 6, 2018.

Continuity of Operations: Actions Needed to Strengthen FEMA's Oversight and Co-ordination of Executive Branch Readiness. GAO–19–18SU, November 26, 2018.

2017 Disaster Contracting: Action Needed to Better Ensure More Effective Use and Management of Advance Contracts. GAO–19–93, December 6, 2018.

U.S. VIRGIN ISLANDS RECOVERY: Status of FEMA Public Assistance Funding and Implementation. GAO–19–253, February 25, 2019.

PUERTO RICO HURRICANES: Status of FEMA Funding, Oversight, and Recovery Challenges. GAO–19–256, March 14, 2019.

Huracanes de Puerto Rico: Estado de Financiamiento de FEMA, Supervisión y Desafíos de Recuperación. GAO–19–331, March 14, 2019.
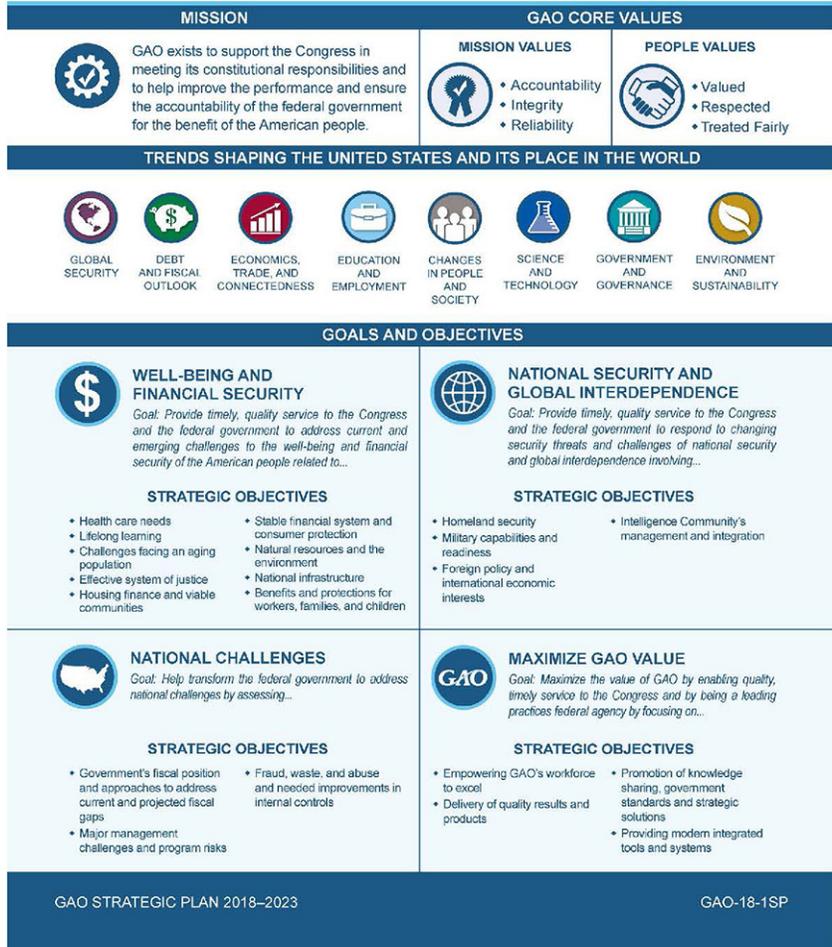
DISASTER RECOVERY: Better Monitoring of Block Grant Funds Is Needed. GAO–19–232, March 25, 2019.

ONGOING ENGAGEMENTS

1. Federal post disaster contracts;
2. Disaster assistance for older Americans and individuals with disabilities;
3. Puerto Rico and U.S. Virgin Islands power grid restoration;
4. Review of U.S. Virgin Islands recovery planning and progress;
5. Puerto Rico disaster recovery planning and progress;
6. 2017 wildfire response and recovery;
7. Federal internal control plans for disaster assistance funding;
8. Electricity grid restoration and resilience after the 2017 hurricane season;
9. Mass care sheltering and feeding challenges during the 2017 hurricanes;
10. DOT highway and transit emergency relief funding;
11. Drinking water and wastewater utility resilience;
12. Review of disaster death count information in selected states and territories;
13. Department of Health and Human Services Disaster Response Efforts;
14. Disaster and climate change impacts on Superfund sites;
15. FEMA Public Assistance program fraud risk management efforts;
16. Fuel reduction efforts for wildland fires;
17. Preparedness challenges and lessons learned from the 2017 disasters;
18. FEMA workforce management and challenges;
19. Small Business Administration response to 2017 disasters;
20. Development of the GAO disaster resilience framework;
21. FEMA Individual Assistance programs and challenges;
22. National Flood Insurance Program (NFIP) post-flood enforcement;
23. Emergency alerting capabilities and progress;
24. National Flood Insurance Program buyouts and property acquisitions; and
25. Economic costs of large-scale natural disasters and impacts on community recovery.

ENCLOSURE III—GAO's STRATEGIC PLAN FRAMEWORK

GAO'S STRATEGIC FRAMEWORK

MISSION		GAO CORE VALUES	
		MISSION VALUES	PEOPLE VALUES
	GAO exists to support the Congress in meeting its constitutional responsibilities and to help improve the performance and ensure the accountability of the federal government for the benefit of the American people.	• Accountability • Integrity • Reliability	• Valued • Respected • Treated Fairly

TRENDS SHAPING THE UNITED STATES AND ITS PLACE IN THE WORLD

GLOBAL SECURITY | DEBT AND FISCAL OUTLOOK | ECONOMICS, TRADE, AND CONNECTEDNESS | EDUCATION AND EMPLOYMENT | CHANGES IN PEOPLE AND SOCIETY | SCIENCE AND TECHNOLOGY | GOVERNMENT AND GOVERNANCE | ENVIRONMENT AND SUSTAINABILITY

GOALS AND OBJECTIVES

WELL-BEING AND FINANCIAL SECURITY

Goal: Provide timely, quality service to the Congress and the federal government to address current and emerging challenges to the well-being and financial security of the American people related to...

STRATEGIC OBJECTIVES

- Health care needs
- Lifelong learning
- Challenges facing an aging population
- Effective system of justice
- Housing finance and viable communities

- Stable financial system and consumer protection
- Natural resources and the environment
- National infrastructure
- Benefits and protections for workers, families, and children

NATIONAL SECURITY AND GLOBAL INTERDEPENDENCE

Goal: Provide timely, quality service to the Congress and the federal government to respond to changing security threats and challenges of national security and global interdependence involving...

STRATEGIC OBJECTIVES

- Homeland security
- Military capabilities and readiness
- Foreign policy and international economic interests

- Intelligence Community's management and integration

NATIONAL CHALLENGES

Goal: Help transform the federal government to address national challenges by assessing...

STRATEGIC OBJECTIVES

- Government's fiscal position and approaches to address current and projected fiscal gaps
- Major management challenges and program risks

- Fraud, waste, and abuse and needed improvements in internal controls

MAXIMIZE GAO VALUE

Goal: Maximize the value of GAO by enabling quality, timely service to the Congress and by being a leading practices federal agency by focusing on...

STRATEGIC OBJECTIVES

- Empowering GAO's workforce to excel
- Delivery of quality results and products

- Promotion of knowledge sharing, government standards and strategic solutions
- Providing modern integrated tools and systems

GAO STRATEGIC PLAN 2018–2023 — GAO-18-1SP

Source: GAO. | GAO–19–451T

Senator HYDE-SMITH. Thank you very much.

Dr. Hall, we would love to hear your opening statement as well.

**STATEMENT OF DR. KEITH HALL, DIRECTOR, CONGRESSIONAL BUDG-
ET OFFICE**

Dr. HALL. Chairman Hyde-Smith and Ranking Member Murphy
and Members of the subcommittee, thank you for the opportunity
to present the Congressional Budget Office's budget request. And
thank you also for your longstanding support of CBO. That support
has allowed us to provide budgetary and economic analysis that is
timely, thoughtful, and nonpartisan as the Congress addresses
issues of critical importance.

The primary purpose of my testimony this morning is to request
an appropriation of $53.6 million for 2020. That amount is an in-
crease of $2.8 million, or 5.6 percent, from the amount provided in
2019. That increase is largely aimed at accomplishing two main
goals.

1. BOLSTERING RESPONSIVENESS AND TRANSPARENCY

Last year, the Congress increased CBO's budget to put in place
a multiyear plan to increase our capacity to make its work as
transparent and responsive as possible. As a result, we are increas-
ing staffing in high-demand areas, such as analyses of healthcare
and immigration. In addition, we are continuing to hire analysts to
expand our use of team approaches, in which work on large and
complicated projects is shared.

In 2020, we propose hiring additional staff who would increase
our expertise and modeling capability in several areas. CBO's goal
is to have more staff with overlapping skills within and across
teams. In some cases, those skills will consist of expertise related
to particular programs, such as transportation. In other cases, they
will be more technical, such as the ability to design simulation
models. Increasing the number of staff with overlapping skills will
allow us to be more nimble when responding to requests for infor-
mation.

Building on the strong foundation we have established over
many years, and with added resources, CBO will also undertake
many different activities to make its analysis transparent. For ex-
ample, during the next 2 years, we will:

—Testify about our projections and analytical method and will
   work to resolve issues raised by Congress;
—Publish more overviews and documentation of some of our
   major models and more detailed information, including com-
   puter code, about key aspects of those models;
—Release data in many forms, including an interactive product
   to help users obtain information about our estimates of the dis-
   tribution of household income;
—Use a new format for our cost estimates to highlight key pa-
   rameters as well as information needed by the Congress for
   budget enforcement procedures;
—Continue to evaluate previous estimates, when possible, in
   order to improve future ones;
—Publish several reports about uncertainty in our estimates;
—Experiment with creating visual summaries of some of our
   major reports, as we did in our most recent budget outlook re-
   port; and

—Interact daily with the Congress to explain our estimates and obtain feedback and continue to regularly obtain advice from outside experts.

2. CONTINUE OUR HIGH VOLUME OF OUTPUT

In 2018, we published more than 900 formal cost estimates; we complete cost estimates for nearly all bills before a floor vote occurs. We also provided the Appropriations Committee with numerous summaries and account-level tabulations for appropriation bills; provided technical assistance to congressional staff as they developed thousands of legislative proposals and amendments; and published many reports about the budget, the economy, and related issues.

Those reports included our assessment of the 10-year budget and economic outlook, a report on the longer term budget outlook, analysis of the President's budget, a 300-page report describing more than 100 options for reducing the Federal deficit, monthly budget reviews, and a variety of analytic reports that examined particular Federal spending programs, aspects of the tax code, and budgetary and economic challenges. Most of those reports are written at the request of the Chairman or Ranking Member of a committee or subcommittee or at the request of the leadership of either party in the House or Senate.

But we know that Members would like us to do even more. So to achieve our two goals—to continue a high level of output and bolster responsiveness and transparency—CBO requests an increase of $2.8 million.

About $1.5 million—a little more than half of the proposed increase would go toward funding for a full year 14 additional staff members we will be hiring during fiscal year 2019, as well as 6 additional hires in fiscal year 2020. That would boost our total FTEs from 255 planned for this year to 264 next year. The other $1.3 million would cover a small increase in our employees' average salary and benefits to provide merit based pay raises and keep pace with inflation.

With your support, we look forward to continuing to provide timely and high-quality analysis to Congress. I'm very happy to take your questions.

[The statement follows:]

PREPARED STATEMENT OF DR. KEITH HALL

(*See* in its original format the full report "Testimony, CBO's Appropriation Request for Fiscal Year 2020" and statement of Keith Hall, Director, in Appendix B at the end of the hearing.)

Chairman Hyde-Smith, Ranking Member Murphy, and Members of the subcommittee, thank you for the opportunity to present the Congressional Budget Office's budget request. And thank you also for your long-standing support of CBO. That support has allowed CBO to provide budgetary and economic analysis that is timely, thoughtful, and nonpartisan as the Congress addresses issues of critical importance.

CBO is asking for appropriations of $53.6 million for fiscal year 2020. That amount represents an increase of $2.8 million, or 5.6 percent, from the $50.7 million provided to CBO for 2019. Of the total amount, nearly 91 percent would be used for personnel costs.

REASONS FOR THE REQUESTED INCREASE IN FUNDING

CBO requests an increase of $2.8 million for two priorities—to pay for current staffing and to bolster transparency and responsiveness. Last year, the Congress increased CBO's budget to put in place a multiyear plan to increase the agency's capacity to make its work as transparent and responsive as possible, and the increase requested now would allow the agency to continue to pursue that plan.

Paying for Current Staffing

CBO requests an increase of $1.3 million to fund current staffing levels in 2020. That amount would be used for a small increase in employees' average salary and benefits to provide merit-based pay raises and keep pace with inflation.

Bolstering Transparency and Responsiveness

The increase would include $1.2 million to fully fund 14 staff members hired throughout fiscal year 2019. (The addition in terms of full-time-equivalent positions, or FTEs, would be 7.6.) The increase would also include $0.3 million for 6 new hires in fiscal year 2020. (The addition in terms of FTEs would be 1.4.)

CBO'S BUDGET REQUEST AND ITS CONSEQUENCES FOR STAFFING AND OUTPUT

In fiscal year 2020, CBO will continue its mission of providing objective, insightful, clearly presented, and timely budgetary and economic information to the Congress. To fulfill that mission, CBO requests $53.6 million in funding. The requested funds would be used for personnel costs (that is, salaries and benefits), information technology (IT), and other costs, such as training.

Funding Request for Personnel Costs and Consequences for Staffing

CBO requests $48.7 million for salary and benefits. Those funds would support 264 FTEs. The requested amount represents an increase of $2.8 million, or 6.1 percent, from the amount provided for 2019. Of the total requested amount:

—$36.5 million would cover salaries for personnel—an increase of $2.3 million, or 6.7 percent, from the amount that will be spent in fiscal year 2019. The increase would include $0.9 million in pay to fully fund the 14 staff members hired in 2019 and $0.2 million for the 6 new hires. The increase would also cover performance-based salary increases for current staff and an across-the-board increase of 1.9 percent for employees earning less than $100,000. And it would provide funds for 3 FTEs for CBO's intern program.

—$12.2 million would fund benefits for personnel—an increase of $0.5 million, or 4.4 percent, from the amount projected to be spent in 2019. The increase would cover a boost in the cost of Federal benefits, fully fund benefits for the 14 staff members hired in 2019, and pay for benefits for the 6 new staff members.

Funding Request for Nonpersonnel Costs

CBO requests $4.9 million for costs other than personnel. Those funds would cover current IT operations—such as software and hardware maintenance, software development, purchases of commercial data, communications, and equipment purchases—and would pay for travel, training, interagency agreements, facilities support, printing and editorial support, expert consultants, financial management auditing support, interactive graphic tools, and subscriptions to library services.

The requested amount is roughly unchanged from the amount that will be spent in fiscal year 2019. That is the result of offsetting effects. The 2020 amount is pushed up in relation to the 2019 amount mainly because CBO plans to further develop tools to analyze and present data and would need to purchase additional resources to support a larger staff. But the 2020 amount is pushed down in relation to the 2019 amount mainly because CBO anticipates achieving efficiencies in its IT operations and because costs in 2019 have been temporarily boosted by onetime agencywide training.

Consequences for Output

The requested amount of funding would allow CBO to do the following for the Congress:

—Provide roughly 700 formal cost estimates (and significantly more than that number if legislative activity is as high as it was in 2018, when CBO provided 947 estimates), most of which will include not only estimates of Federal costs but also assessments of the cost of mandates imposed on State, local, and Tribal governments or the private sector;

—Fulfill thousands of requests for background information and technical assistance, the demand for which is very high as committees seek a clear picture of

the budgetary impact of proposals and variants of proposals before they formally consider legislation;

—Produce about 150 scorekeeping tabulations, including account-level detail for individual appropriation acts at all stages of the legislative process, as well as summary tables showing the status of discretionary appropriations (by appropriations subcommittee) and running totals on a year-to-date basis; and

—Publish about 70 analytic reports and papers—generally required by law or prepared in response to requests from the Chairmen and Ranking Members of key committees—about the outlook for the budget and the economy, major issues affecting that outlook under current law, the budgetary effects of policy proposals that could change the outlook, and a broad range of related budget and economic topics in such areas as defense policy, infrastructure, Social Security, and housing.

The agency would also continue to bolster its transparency and responsiveness by increasing its staff's availability to meet surges in demand and by dedicating more staff to creating publications that explain and graphically illustrate CBO's work.

Despite high productivity by a dedicated staff, CBO expects that the volume of estimates and other analyses will fall short of the number of requests from committees and congressional leadership and will fall considerably short of the number of requests from individual Members. The demands on the agency remain intense and strain its resources in many areas. For example, the workload associated with the analysis of appropriations continues to be heavy. Also, over the past year, CBO analyzed legislation related to financial reform, farm programs, nutrition programs, housing assistance for veterans, pension reform, disaster assistance, opioid abuse, and cybersecurity. CBO regularly consults with committees and leadership to ensure that its resources are focused on the work that is of highest priority to the Congress.

TRANSPARENCY

CBO has always worked hard to make its analysis transparent, and the agency anticipates that almost all of its current employees will spend part of their time on such efforts. Moreover, CBO recently put in place a plan to strengthen those efforts. The Congress increased CBO's budget for 2019 in part to hire new staff to contribute to transparency and bolster responsiveness. To enhance transparency, CBO plans to hire 10 staff members in 2019 and proposes to hire 6 more in 2020.

During the next 2 years, CBO will undertake many different activities to make its analysis transparent.

Testifying and Publishing Answers to Questions

In 2019 and 2020, CBO expects to testify about its baseline projections and other topics as requested by the Congress. That work will involve presenting oral remarks, answering questions at the hearings, and presenting written statements, as well as publishing answers to Members' subsequent questions for the record. CBO will continue to work to resolve issues raised as part of the oversight provided by the budget committees and the Congress generally. In addition, the agency expects that Members of Congress will ask other questions to which it will provide published responses.

Explaining Analytical Methods

CBO plans to publish short reports providing general information to help Members of Congress, their staff, and others better understand its work. One such report will provide brief explanations of some important concepts related to the Congressional budget process. For example, that report will explain differences among authorizations, appropriations, rescissions, and reappropriations. Another will explain the differences between two types of estimates used for credit programs: estimates prepared using the methodology specified in the Federal Credit Reform Act, which applies to most Federal credit programs, and estimates prepared on a fair-value basis, which incorporates market risk. And another short report will explain key scorekeeping rules and how they have been used in providing estimates for recent legislation.

CBO will publish a substantial amount of technical information about updates to its health insurance simulation model (HISIM). CBO also will provide technical information about several other methods used to analyze the effects of Federal policies. In addition to segments of computer code from HISIM, CBO plans to release some code from other models.

Releasing Data

In 2019 and 2020, CBO will continue to publish extensive sets of data in conjunction with its major recurring reports, including detailed information on 10-year

budget projections, historical budget outcomes, 10-year projections for trust funds, revenue projections by category, spending projections by budget account, tax parameters and effective marginal tax rates on labor and capital, and 10-year projections of economic variables, as well as data about the economy's maximum sustainable output.

The agency will also provide details about baseline projections—this year with more supporting spreadsheets—covering the following: the Pell grant program, student loan programs, Medicare, the military retirement program, the pension benefit guarantee program, the Social Security Disability Insurance program, the Social Security Old-Age and Survivors Insurance program, the trust funds for Social Security, child nutrition programs, child support enforcement and collections, foster care and adoption assistance programs, the Supplemental Nutrition Assistance Program, the Supplemental Security Income program, the Temporary Assistance for Needy Families program, the unemployment compensation program, the Department of Agriculture's mandatory farm programs, Federal programs that guarantee mortgages, programs funded by the Highway Trust Fund, benefits for veterans and military personnel stemming from the Post-9/11 GI Bill, and veterans' disability compensation and pension programs.

Other data will provide details about long-term budget projections, projections underlying Social Security estimates, more than a thousand expired or expiring authorizations of appropriations, and dozens of Federal credit programs. When CBO analyzes the President's budget request, it will post a set of files providing estimates of the budgetary effects of specific proposals. Throughout the year, the agency will post the data underlying the figures in various reports.

Analyzing the Accuracy of CBO's Estimates

In 2019 and 2020, CBO will release reports analyzing the accuracy of its past projections of outlays, revenues, deficits, and debt. As part of a continuing series of reports about the accuracy of its previous cost estimates, CBO will reexamine its original estimates of certain legislation. A report on the accuracy of CBO's economic forecasts will be released. And CBO will publish comparisons of previous projections of Federal subsidies for health insurance with actual amounts.

Comparing Current Estimates With Previous Ones

In several of its recurring publications—reports about the budget and economic outlook, Federal subsidies for health insurance, and the long-term budget outlook—CBO will continue to explain the differences between the current year's projections and those from the previous year. In its cost estimates, CBO will continue to identify related legislative provisions for which it has provided estimates in the recent past and explain the extent to which the provisions and estimates at hand are similar or different.

Comparing CBO's Estimates With Those of Other Organizations

The agency will continue to publish its regular comparisons of its budget projections and the administration's and of its economic projections and those of private forecasters and other government agencies. And the agency will include comparisons of estimates in various reports. In addition, when time does not allow for publication, analysts will sometimes be able to discuss such comparisons with congressional staff.

Estimating the Effects of Policy Alternatives

In 2019 and 2020, CBO will release new interactive products to help users understand the effects of potential changes to Federal policies. And reports on other topics will also illustrate the potential effects of various policy proposals.

Characterizing Uncertainty Surrounding Estimates

CBO will update its interactive workbook showing how changes in economic conditions might affect the Federal budget. Also, its reports about the 10-year outlook for the budget and the economy, the long-term outlook for the budget, and Federal subsidies for health insurance will contain substantial discussions of uncertainty.

Creating Data Visualizations

In 2019 and 2020, CBO will provide information about its budget and economic projections in slide decks and create infographics about actual outlays and revenues. And the agency will continue to look for opportunities to include graphics to enhance the explanations in some cost estimates.

Conducting Outreach

CBO will continue to communicate every day with congressional staff and others outside the agency to explain its findings and methods, respond to questions, and

obtain feedback. The agency's Director will meet regularly with Members of Congress to do the same.

As the agency updates its health insurance model, it will continue to discuss the development with representatives from the Congress, Federal agencies, States, insurers, employers, doctors, hospitals, and the general public. The agency will also obtain feedback from researchers such as those on the technical review panel that it established for HISIM.

After each set of baseline projections is published, CBO's staff will meet with congressional staff to discuss the new projections and answer questions.

CBO will continue to obtain input from its Panel of Economic Advisers and Panel of Health Advisers. It will continue to turn to other experts as well. For example, CBO will convene a recurring meeting of crop insurance and commodity analysts to review the past performance of the crop insurance program and commodity markets and to discuss projections of future spending in those areas. Many reports will benefit from written comments by outside experts on preliminary versions. For some recurring reports produced on compressed timetables, such as the one about CBO's long-term budget projections, the agency will solicit comments on previous publications and selected technical issues to incorporate improvements in future editions.

CBO's staff will give presentations on Capitol Hill—some in collaboration with the Congressional Research Service—on its budget and economic projections and on other topics. Those presentations will allow CBO to explain its work and answer questions. The agency will also give presentations about its findings and about work in progress in a variety of venues to offer explanations and gather feedback. In addition, CBO will use podcasts and blog posts to summarize and highlight various issues.

RESPONSIVENESS

One of CBO's highest priorities is responding to the Congress with the information that it needs to legislate. That information takes a variety of forms, ranging from formal cost estimates to background information and technical assistance, and CBO tries to provide it when it is most useful. For example, CBO completes nearly all cost estimates before a floor vote on legislation.

In addition, the agency works to provide technical assistance, reports, and other information to policymakers during earlier stages of the legislative process.

The agency recently put in place a plan to strengthen its responsiveness. For 2019, the Congress increased CBO's budget in part to hire new staff to contribute to that effort. As a result, CBO is increasing staffing in high-demand areas, such as analyses of healthcare and immigration. In addition, the agency is continuing to hire analysts to expand its use of team approaches, in which work on large and complicated projects is shared.

The budgetary increase that CBO is requesting now would allow it to continue such efforts while also enhancing transparency. In 2020, CBO proposes hiring additional staff who would increase the agency's expertise and modeling capability in several areas. CBO's goal is to have more staff with overlapping skills within and across teams. In some cases, those skills will consist of expertise related to particular programs, such as transportation. In other cases, they will be more technical, such as the ability to design simulation models. Increasing the number of staff with overlapping skills will allow the agency to be more nimble when responding to requests for information.

This testimony summarizes information in CBO's budget request for fiscal year 2020, which was prepared by Mark Smith, with contributions from Leigh Angres, Wendy Edelberg, Joseph E. Evans Jr., Theresa Gullo, Deborah Kilroe, Jeffrey Kling, Cierra Liles, Benjamin Plotinsky, and Stephanie Ruiz.

Mark Hadley reviewed the testimony, Benjamin Plotinsky edited it, and Jorge Salazar prepared it for publication. It is available on CBO's website at www.cbo.gov/publication/55088.

Senator HYDE-SMITH. Thank you.

PLANS FOR GAO'S SCIENCE TECHNOLOGY ASSESSMENT AND ANALYSIS

Mr. Dodaro, in March, you provided the subcommittee with your plan to expand the support you provide to Congress in the areas of science and technology by creating the new Science Technology Assessment and Analysis Division. Please tell us about the plan for

this new division and how that plan is reflected in your budget request this year.

Mr. DODARO. Yes. First, the new team has four lines of effort. One is to do technology assessments for the Congress. For example, we've done ones in the past on artificial intelligence dealing with cybersecurity, transportation systems, autonomous vehicles, and in the financial regulatory areas. Some financial advisors are providing, through machine learning, advice to people to make investment decisions.

We're doing one artificial intelligence review now on healthcare in terms of how we can help advise and provide assistance by analyzing patterns and provide advice to physicians and others. Also, in the new 5G area there's a big concern about the allocation of spectrum with 5G and the implication it's going to have for commercial uses, Federal domestic agencies, as well as defense.

We will continue to expand our work doing these technology assessments for the Congress. In the past, based upon the agreement we've had with the Appropriations Committee, we do about two of these a year. We think we can do more with our budget request for next year, and Congress has asked for more of these technology assessments.

Second, we are looking at programs that have science and technology implications in them. For example, the Congress is investing over several hundred billions of dollars for maintenance and modernization of our nuclear weapons systems. Congress has asked GAO to look at that. The estimate to resolve the hazardous waste that already exists for nuclear weapons is estimated to be almost a half a trillion dollars right now. We've looked at alternative ways of disposing of this waste through new technology applications. We'll be able to meet the demands of the Congress better and the priorities for all these implications of technology.

Technology is pretty ubiquitous now in almost everything that the Federal Government does. We'll be able to expand our capabilities in that area and to look at cost estimates. For example, on the nuclear submarine work I just mentioned, we're able to identify the fact that the estimates are overly optimistic based upon the methodology and the fact that the people we have in these areas, that understand the technologies and the costs is important.

We also do technology readiness assessments, that enable GAO to advise the Congress before it approves new technology to go into production, that the technologies aren't mature enough, and that Congress should wait before making the investments because if you don't, there will be costly modifications later on. So with the expansion of our team in this area, we can help Congress avoid spending billions of dollars that aren't going to produce the technology everybody thought it was going to produce.

Third, we want to expand the technical assistance that we provide to the Congress on a short-term basis. This is if they have questions, such as "What's this new technology about? What are the implications of it? What can be done in these areas? What questions should we be asking? What research and development should be done?" We can expand our capabilities to provide that type of advice, not only to committees, we have to be in a position to give that advice to individual Members when they request it. So

the additional resources we're requesting will help us expand that capability because all Members really need to understand these issues and the implications of them on policy decisions.

Finally we're going to create, with the new resources, an innovation lab where we'll be able to test new audit methodologies. For example, on blockchain technology, if the government applies this widely, which a lot of people are suggesting that they do, how would you audit it? How would you make sure that it has the integrity everybody thinks it has?

The other area is the information technology and cybersecurity area. We are inundated with requests to look at cybersecurity implications of virtually all Federal programs and activities, and protecting personally identifiable information, healthcare records, and it goes on and on. We will be in a better position to respond to congressional requests in order to respond to these cybersecurity concerns. As I mentioned in my opening statement, these issues will get more complicated, not less, with artificial intelligence.

For example, we are moving to a new air traffic control system that will be based on satellite information, not the current radar-based closed system. Once you are open to that, autonomous vehicles and a wide range of other things, anything connected to the Internet is going to have, great benefits. Obviously, it's also going to have a down side too, in terms of being exploited. Last year we reported the Defense Department wasn't paying enough attention to cybersecurity concerns in the development of new weapons systems. So we've been asked to do more work in that area.

Space is another area where the dominance in space will determine our success not only commercially, but also from a national defense standpoint. We have to make sure that our assets in space are protected as well. These are the areas that we'll be able to provide more advice to the Congress.

Senator HYDE-SMITH. Thank you. How do you intend for this division to be able to provide Congress with actionable information to guide technology-related policy decisions?

Mr. DODARO. Yes. We have been identifying the policy implications of this area. We've outreached to a wide number of people throughout the Congress, academia, others that are interested in this area. One comment is that we should provide more policy options for the Congress to consider in these areas. So we'll be providing more of that type of information when appropriate.

In the cybersecurity area, in the last several years, we've made over 3,000 recommendations, 700 of them haven't been fully implemented yet, which is a part of my concern. In the cybersecurity area, we've made very specific recommendations, many of which aren't available publicly because they would expose vulnerabilities, but in the technology assessments, we need to add and we'll be developing more policy options for the Congress to consider in those areas.

For example, we did a technology assessment on nanomanufacturing, nanotechnology. Here's an area Congress has invested $18 billion in the National Nano Initiative to provide more funding for research and development. What we found was while that was being successful, there was no Federal Government support for bringing those new technologies into the marketplace as soon as

possible. So you had a big spike in research and development but a lot of these things weren't taken into commercial applications quickly and actually entering the economy and having as much benefit as possible. We advise that that's an area that Congress ought to look at.

Other countries have more holistic policies to go from research and development all the way through supporting items to get to market. Now, we have a greater reliance on the private sector, but there is no reason we couldn't have more cooperation between the public sector and the private sector in bringing these technologies into fruition from research all the way to application. That's an area where we've made recommendations in the past.

I'm particularly interested in artificial intelligence and the work we're doing on quantum computing as well. This is an area where we're in a race with our adversaries to be dominant going forward. Clearly we need to take some additional actions in those areas. I look forward to making recommendations to the Congress in that area as well, particularly in the defense realm and in some of the other areas.

UPDATE ON INCREASE TRANSPARENCY

Senator HYDE-SMITH. All right.

Dr. Hall, in your time as Director of CBO, you've made transparency a top priority of the agency, which has also been a concern for this subcommittee. Will you please provide an update on current efforts to increase transparency in fiscal year 2019 and how you plan to continue that work in the coming fiscal year?

Dr. HALL. Sure. Actually, we've already done quite—quite a lot. At the end of last year we produced a report that had sort of a long listing of some of the things that we've done and what we plan on doing. But we've done—we've done a—published more overviews and documentation of all our major models. We've provided some detailed documentation. We've provided some computer code on particular models where—where it made sense. We've released data, increased our release of data, in many forms. We've produced some interactive products. We have an interactive product on force structure, we have an interactive product on discretionary spending, and then something on the economic outlook where you're allowed to sort of vary some of the economic assumptions that we use for the budget, budget and economic outlook.

We've changed the format of our cost estimates to try to make them—to highlight the key parameters that are used in the estimates and make it more useful for budgetary enforcement process. We've done continued evaluation of our estimates. We've published some reports about uncertainty. We're experimenting with visual summaries of some of the major reports, so we've actually gotten some really good feedback. We did that, for example, in the most recent budget outlook. And we continue to interact daily with Congress, so we get some feedback about how these—how these transparency efforts are working, how they're going over.

And we've also done some—some talking. You know, we've done some—some presentations over at CRS about how we do healthcare estimates and how we do some of the other estimates, how we do economic estimates.

So we've done quite a lot and we have quite a lot planned going forward.

ANY CHALLENGES INCREASING STAFF LEVELS

Senator HYDE-SMITH. Fantastic. Just one other follow-up to that, supporting the needs of Congress, including providing the enhanced transparency you are talking about, has required increases in human capital. Do you foresee any challenges with continuing to increase your staff levels?

Dr. HALL. Well, that has gone—that has gone well. It's gone very well, I think. We've increased our hiring and we've managed to keep our hiring standards very high, so that part has worked out. We've added people in a lot of different areas.

To be honest, one of the real challenges is we need a little bit of a larger footprint, so we're—we're crowding folks a little bit to bring—bring them on, but we're handling that. And, of course, we have lots of data and we need particular configurations to protect the data. But I'd say the challenges have not been great, and we're—we're rising to the challenges.

GAO'S DISASTER-RELATED WORK

Senator HYDE-SMITH. Okay. Moving on to your disaster work, Mr. Dodaro, GAO was provided $14 million in supplemental funding to conduct oversight work on disasters which occurred during calendar year 2017, which was a very busy year. How many projects have you completed related to this disaster work?

Mr. DODARO. We've issued 11 reports already. We have 25 other audits underway. We expect in the next 2 months, this month and next month, to complete an additional six reports, and before the August recess, another eight reports. So by the end of August, we'll have issued 25 total reports on this subject and still have work underway because there's a long tail, as you know, to these recovery projects and activities, particularly, in this case, in Puerto Rico and Texas and the Virgin Islands and Florida as well.

VALUABLE GAO DISASTER-RELATED FINDINGS

Senator HYDE-SMITH. Yes. It does seem to go on and on and just compounded by other things as well.

What has been the most valuable finding, and how can we improve the Federal response to disasters?

Mr. DODARO. Two main themes have come out of this. One is the importance of building resilience in at the beginning, and the level of preparedness at the State, territorial, or local level. In the 2017 situation where Florida was much more prepared than Puerto Rico, for example, and so they had built resilience in, they had changed their building codes, they had better secured their sources of electricity, and Puerto Rico really wasn't prepared in that area.

So lesson number one is it's important to take adaptation measures and to build resilience into your building codes and then in to all other decisions, such as the height of the bridges, how you secure not only your electrical system but your communication systems, et cetera.

Now, I was pleased to see, based in part on GAO's work last year, the Congress passed the Disaster Recovery Reform Act, which allows some of the money to be used for resilience building and through funding allows the State and local levels to bring up their codes to new international standards. The National Building Sciences group recommends for every dollar that you invest into resilience building, you will save $6.00 later. The same thing with building codes: investments pay off later and you don't have as much damage to deal with.

Lesson number two is that there is a need to improve the contracting process in this area. We have looked at the advance contracts that are supposed to be in place so FEMA could move quickly. We made a number of recommendations on how that could be strengthened, and also contracting right after the events.

That last thing I would say is we made a recommendation to the Congress related to the Community Development Block Grant disaster component. That does not have a standard authorization for the Congress to have a permanent program there. And what's happened with Katrina, with Sandy, and now with these 2017 hurricanes, it takes HUD time to design new programs using the *Federal Register* process. Programs with new rules and new regulations and everything. So they don't have anything ready to go. And if Congress is going to continue to use the Community Development Block Grant program, which is helpful because it covers things that aren't covered under other Federal programs and allows for building for housing and economic development, Congress should permanently authorize the program that would enable HUD to move out on contracts more quickly.

So those are some of the recommendations we have so far. We'll have more in our upcoming reports.

FUTURE GAO DISASTER WORK

Senator HYDE-SMITH. So have you received requests for oversight work now on the 2018–2019-related disasters?

Mr. DODARO. I think we will. Just in defense alone, for example, the damage at Camp Lejeune from Hurricane Florence, and Hurricane Michael in Florida, and the Panhandle for Tyndall Air Force Base, each have damage estimates of over $3 billion for those areas alone.

We have also received requests to deal with wildfires out West, and that's part of what we're doing right now, and, we've had historic flooding in the Midwest recently; I expect requests. There is hardly a disaster that happens that GAO is not immediately asked for assistance to find out what's going on, and we have built quite an expertise in this area. We appreciate the supplemental funds from the Congress. We've spent half of the $14 million so far. We expect to spend the rest of the money in fiscal year 2020. If we're going to do more work in these other disasters, having additional funding would be helpful.

Senator HYDE-SMITH. As I said, we're between votes and we've got 8 minutes left, but Senator Murphy is on his way back——

Mr. DODARO. Okay.

Senator HYDE-SMITH [continuing]. So maybe we can swap out and still make this work.

GAO INFORMATION TECHNOLOGY NEEDS

One more question here. Part of your request includes investments in information technology and infrastructure, but of the $16.5 million increase, you request an additional $10 million specifically for GAO's IT needs. Tell us about what this funding will provide and the need for these new investments.

Mr. DODARO. Yes. There are several that are really critical to our operations. First has to do with the unified communications technology. The phone system in the GAO building is still a PBX analog system. I've already made arrangements to have it retired to the Alexander Graham Bell Museum. We don't have Voice over Internet Protocol and a digital approach. That we're going to be able to do. We're going to go to Skype for Business so we can have clear communications with people, because we have people throughout the United States and people on field visits all the time. This will enable a very mobile workforce that we have to communicate better. So that's number one.

Number two, it will help the Congress because we're moving to produce all our reports in an HTML digital format that can be read on any mobile device. We've already produced our first pilots under this program, that's been very favorably received by the Congress, because staff can have access at hearings in supporting Members on the floor to any GAO product through this method. We're rolling this out now based on a successful pilot.

Third is our document management approach. We generate lots of analysis and information, and have to have it stored. Our document management system dates back to the 1990s. We need a new system that will enable us to store our documents and retrieve them effectively. This will increase our efficiency and effectiveness. Everybody wants things as fast as possible, and this will enable us to speed up our analysis and the production of our reports.

Senator HYDE-SMITH. What would be the effect if you were not to receive those funds for these initiatives this year?

Mr. DODARO. We'll have to use some Band-Aids and go to the first aid kit and limp along for a while, and it won't increase our productivity.

EXPECTATION OF THE NEW HEALTH INSURANCE MODEL

Senator HYDE-SMITH. Okay. Dr. Hall, I understand CBO is currently working on updating its Health Insurance Simulation model, which the agency uses for cost estimates related to all healthcare legislation. What can we expect from the new model, and how are you ensuring transparency through this process?

Dr. HALL. Well, we are just about to roll out the new model. We're going to use it in our spring baseline, which is early next month, so it—it's—it's in—it's in use at the moment. We had a process for preparing the model that was—that was rather thorough and very transparent. We—we had extensive peer review. We had broad external validation. We made a lot of presentations. It has been the most open and transparent development of a model I've ever seen, by far. And we've gotten very good reviews on doing it that way. And then ahead of the release of the baseline, which is, again, coming up next month, we've very shortly going to

produce a slide deck that has the model specifications, the key equations and parameters, make those public. We're going to have additional documentation, particularly describing the sources and preparation of input data that's used in the simulation modeling. And then we're going to offer access to the computer code that the model uses to simulate certain decisions about insurance choices, in particular, that that's underlying the baseline work. So a lot of that is just on the verge of coming out, I would say.

ECONOMIC OUTLOOK—DEBT AS A PERCENTAGE OF GDP

Senator MURPHY [presiding]. The gavel has been handed over here. So sorry—as I'm sure Senator Hyde-Smith mentioned, we're in the middle of a vote, so I appreciate you allowing us to do musical chairs here.

Let me actually start with you, Dr. Hall, for my questions. I wanted to take advantage of the fact that I have you in front of our subcommittee because I haven't gotten the chance to talk to you about some of the recent economic outlooks that CBO has put forward, and I just wanted to take advantage of the opportunity to ask a few questions.

I think the latest one that I saw was your January update, noted that deficits continue to rise, debt will achieve about 93 percent of GDP in 2029. Can you talk a little bit about what is driving those historically high debt-to-GDP ratios, and these growing deficits, and how you analyze the recent tax reform bill as a component to debt and deficit numbers?

Dr. HALL. All right. Well, one of the things that we see over the next several years is deficits of about 4 percent of GDP going forward, which is a high level. It's especially a high level when the economy is performing this well. One of the points I like to make is last year we had pretty good economic growth, 2.9 percent, the best since 2009, yet the deficit grew to almost 4 percent of GDP. So deficit is pretty significant now, and it's pretty significant during a time in the business cycle where—where one could have a—should have a—well, I don't want to use the word "should"——

Senator MURPHY. Right.

Dr. HALL [continuing]. But you could have a much lower deficit, because one of the things that can happen going forward is if we go through another cycle, deficits are going to grow and they're—but they're going to grow from a very high level. So we're almost at $1 trillion now, if we go through another cycle—I'll give you a for-example, during the Great Recession, the deficit was about $160 billion. In 4 years, it climbed to $1.2 trillion. Well, right now it's going to start at almost $1 trillion, and you go through another cycle, it's going to go up way beyond that. So that's a real concern. It's a concern over the time, again the timing of when things are good.

But we see 4-percent deficits going straight through—straight ahead. We do see the debt climbing, it's about 78 percent of GDP now, we do see it getting to be 93 percent of GDP. Right now obviously spending outstrips revenues, and that's—that continues going forward.

Part of why we think we're getting good growth right now is the effects of the tax bill, it did have a stimulus effect, but it's a stim-

ulus effect, meaning that we'll have higher than trend growth this year probably, and we had it last year, but we think that's going to wear out, and growth is going to drop to much lower levels in 2020, and we're going to get slower growth, and that's going to mean—that's going to mean things for the budget going forward, the deficits are going to grow from there.

Senator MURPHY. And, you know, part of the dispute over the underlying deficit and debt impact of the tax bill was a disagreement over what that rate of growth would be——

Dr. HALL. Mm-hmm.

FUTURE RATE OF GROWTH (1.7 PERCENT) AND PROJECTED LABOR SHORTAGE

Senator MURPHY [continuing]. And it is interesting that you're pegging growth at around 1.7 percent leading up to 2023. And in that analysis, at least in the summary of your analysis, you recognize—I don't want to put a phrase in your mouth—but labor shortages, or a shrinking labor pool as contributory to that relatively new to rate of growth compared to what we have today. And I don't mean to bring politics into questioning you, but the President has gotten a lot of attention recently claiming that the country is full, and yet your analysis is that a lack of labor is going to contribute to our inability to eclipse 2-percent growth numbers.

Can you just sort of play out for us a little bit why that is, explain why labor shortages, or lack of labor, leads to a lower growth rate?

Dr. HALL. Sure. I'll start with history. When we were achieving 3-percent growth a few decades ago, we had the labor force growing 1.2, 1.4 percent a year. So we had baby boomers in their prime, and we had women's labor force participation climbing, and so closing the gap. Going forward, we see labor force growth only being about half a percentage point.

So right away, if you go from 1.4-percent growth to 0.5-percent growth, that's—that's a huge drag on the ability for the economy to grow. So our forecast over the long run, we see maybe productivity growth 1.3 percent, 1.4 percent, labor force growth of .4 percent. You literally add those together and you get that 1.7-, 1.8-percent growth, and that's where we see it, and it's a—it's a supply-side limitation, and it's primarily from a slower growing labor force than we've had in the past.

Senator MURPHY. And you're already in an environment where you have close to structurally low unemployment.

Dr. HALL. Right. In fact, we think unemployment is below its structural level, so it's below a sustainable level, so we think it's going to go back up in the next year or two.

Senator MURPHY. So a lot of attention is to the number of people who are outside the labor force, who aren't counted in the reported percentage of individuals who are unemployed. If some of those individuals were to rejoin the labor force, that would, of course, change your dynamic about the effect of low labor supply. Is there any reason to believe that the individuals who have been permanently outside of the labor force will come back in as you have other sources of new labor, whether it be immigration or increases in women joining a labor force fail to meet our needs?

Dr. HALL. Yes. Actually, I think we've already had pretty good recovery——

Senator MURPHY. Yes.

Dr. HALL [continuing]. From the Great Recession. I think the number of people who have reentered the labor force has maybe been a little stronger than we thought already going forward. I don't know how much more one—one can expect from that.

PROJECTED INCREASE IN REVENUE AS A PERCENTAGE OF GDP (2029)

Senator MURPHY. And then just lastly on the report, revenue as a percentage of GDP, around 16.5 percent today, slowly increases so that by 2029 you're back above 18 percent of GDP. Explain why that happened. Explain why you have a consistent increase in the percentage of revenue to GDP during that period of time.

Dr. HALL. Well, there are two main reasons. One is under current law, the reduction in tax rates, individual tax rates, are going to go back up in 2025. So if those go back up, that will—that will raise that. And the other thing is real bracket creep. Typically GDP grows faster than inflation, and so more people move up into higher tax brackets. So those are the two things that we think under current law will raise the share of revenue as a share of GDP back above historical levels.

Senator MURPHY. And it's those individual tax reductions that are the temporary.

Dr. HALL. Absolutely.

Senator MURPHY. Right. The corporate tax cuts do not expire.

Dr. HALL. That's right. In fact, both of those things I mentioned are individual income tax increases.

Senator MURPHY. Right. Thank you very much, Mr. Hall. The last question for you—thank you for your answers to Senator Hyde-Smith's question about transparency. You're really to be applauded for how serious you've taken this issue. As we discussed, there's a limit to how much transparency can be provided, but you are delivering an extraordinary amount of additional window into your work, and these interactive models I think are really, really helpful to folks in our offices that are working on these complicated issues.

IT INFRASTRUCTURE NEEDS

And to that last question, are there IT infrastructure needs, and I'm sorry if Senator Hyde-Smith asked this, that you need to increase this commitment to transparency? Is it really just a matter of sending staff on new missions and projects, or is there an IT component to this that you're going to need going forward?

Dr. HALL. I think a lot of it is just sending—sending our staff on new missions to find things. And it's not just, you know, a few people, it's all our analysts are now taking more time to be more transparent, to document what they're doing better, to get good ideas on known interactives and that sort of thing.

We do have some plans on our IT. We've moving to the—we're moving almost all our data center to the cloud, and we're moving to virtual desktops, but that's just part of, I think, being more efficient. We'll be fine with the transparency as long as we get some—continue to have some resources.

Senator MURPHY. And as long as you have the resources, you don't see the additional transparency commitment taking away from your workload and your responsiveness to requests.

Dr. HALL. No. And that was—that was the one thing that we really insisted on, is our due diligence. The quality of our work can't suffer from this, which is part of why we made a real effort to shift resources around and ask for more resources.

Senator MURPHY. Great. Thank you very much, Dr. Hall.

MORE ON GAO'S DISASTER REPORTING

Good to see you, Mr. Dodaro. I only have a few questions for you, but I wanted to focus them on the $14 million that you were given to conduct oversight of the nearly $122 billion provided in disaster relief for Puerto Rico and the U.S. Virgin Islands. Can you give us just a sense of the scope of this project, the size and duration of the audit plan? Is it happening now? If so, what do you have on the ground in terms of audit and analysis resources?

Mr. DODARO. We started shortly after the events occurred. We've already issued 11 reports on the initial response of our agencies, status of issues in Puerto Rico and the Virgin Islands, for example; how the advance use of contracting was used. We have 25 other audits underway. Of those, we expect to complete six of them in the next 2 months, by April and May. We also expect to complete eight others, additional ones, by the August recess. By the August recess, we will have issued 25 reports.

Now, the scope of this covers over a dozen Federal agencies that are providing support to the initial response and recovery. We issued a report, for example, recently on the Community Development Block Grant assistance. We'll look at the SBA response. We'll look at DOD's role in the whole process, Interior, Agriculture, in addition to the FEMA activities, and a number of other agencies are involved as well. So what will be the scope of our work, is really all the efforts, Federal efforts, underway to help in the initial response and then recovery.

Usually it takes a long time for these things to spend out. Under CDBG, for example, the States and territories will have up to 6 years to spend that money. Hurricane Sandy efforts are just winding up in the last couple years as well.

So we plan to stay with it through the time Congress needs oversight over the process.

GAO DISASTER FINDINGS SPECIFIC TO HUD

Senator MURPHY. Congress provided HUD CDBG, you referenced that program, with just short of $20 billion in funding for Puerto Rico alone. Puerto Rico received the first infusion of that money, about $1.5 billion, just 3 months ago. That's over a year and a half after the storm, and HUD is sitting on the balance of that money, $18.5 billion, and, as far as I know, hasn't even posted anything in the *Federal Register* regarding the $8.3 billion in HUD disaster mitigation so that people can begin applying for those funds.

I think you mentioned that you've already done some oversight here. Have you evaluated HUD's performance in administering this disaster funding?

Mr. DODARO. Yes, we have. A couple things we've suggested there. Number one, we think Congress ought to give permanent authorization to the HUD disaster assistance program. Right now, there is no process, so HUD has to tailor the rules, regulations, and programs to go through this process on each disaster, and it's taken longer. They also had to do this on Katrina. They had to do it on Superstorm Sandy. Now they're doing it with the 2017 disasters. We have a chart in our report that shows that it takes almost the better part of a year for HUD to go through the process that they have in place. So we recommend Congress, like in a lot of other Federal programs, to give permanent authority so that the regulations and rules are already in place, and so they can just start once Congress appropriates the money.

Now, with regard to HUD itself, we found that they didn't have good processes and procedures for reviewing the applications from the States and territories. They could strengthen their process in that area, and develop better monitoring plans. They needed to think about the workforce that they need to carry out these activities in a timely and effective way. We made a number of recommendations to HUD as well.

Now, with regard to Puerto Rico and spending the money, what we found was that in Texas and Florida, they had only spent about 1 percent of the money that was available for them. That was mostly for administrative purposes. Puerto Rico and the Virgin Islands hadn't spent anything yet because they didn't have the same kind of infrastructure ready that Texas and Florida had to spend the money.

So none of the States or territories that received money under this program have spent any more than 1 percent of it as of January this year. So Puerto Rico is no different than the other States and territories.

Senator MURPHY. I mean, you're certainly right that we should have permanent authorization, but, you know, we're already in the permanent business of providing disaster assistance. HUD knows in any given year that it's going to be responding to disasters somewhere with or without our permanent reauthorization or authorization of that programming.

So, I mean, that doesn't sound like an excuse that should be available to HUD given the fact that they know that they are going to be annually in the business of getting this money out. They could make reforms to expedite the funding notwithstanding Congress's failure or success in permanently authorizing those capabilities.

Mr. DODARO. Yes, well, I'll go back. I'll give you a more detailed answer for the record. But they can't spend money unless Congress appropriates the money to have a program. I mean, so they'd be having to use their authorities to create something that Congress hasn't authorized them in advance. So I think there's a legal issue limiting their ability to do what you're suggesting and have it in place and go through the process. But I'm not positive on that, and I will go back and talk to our legal and programmatic teams and get you a more detailed answer. But, you know, we—we've made that recommendation.

We think Congress ought to give them the authority to establish that program. I'm not suggesting Congress give them funding in advance, I'm just saying that Congress ought to say we authorize there to be a permanent program for disaster recovery under the Community Development Block Grant program so HUD has the— then the legal authority to create a permanent set of rules and regulations that are in place.

Senator MURPHY. And, lastly, President Trump has reportedly been reluctant to deliver additional money to Puerto Rico, in part, because of his claims that the government has acted irresponsibly with respect to the money that they have already been given. Based on your work, do you have any reason to believe that Puerto Rico is spending Federal dollars it has received irresponsibly? Have you found any evidence of fraud or significant and unjustifiable waste in the dollars that have been spent thus far?

Mr. DODARO. Not yet. Actually, FEMA has in place manual procedures to approve every reimbursement that goes to HUD. So they have pretty strict controls in place right now. They're waiting for Puerto Rico to come up with an internal control plan that they'll produce that will give Puerto Rico more ability to operate on their own without FEMA having to approve manually every reimbursement of the money that they spent in that area.

So, so far, it looks like there are stringent controls in place, but as Puerto Rico gets more authority to operate on their own, they— they've established a new office, they're in the process of developing their procedures, and so—but—and we'll—we're going to continue to monitor this, but so far it looks like FEMA has acted responsibly and have good controls in place over the money that's spent in Puerto Rico.

Senator MURPHY. And Puerto Rico has——

Mr. DODARO. Yes.

Senator MURPHY [continuing]. Acted responsibly.

Mr. DODARO. Well we haven't fully examined what Puerto Rico has done yet, but it—they have to get reimbursement from FEMA. So the real check is they have to provide documentation to FEMA, and so FEMA—to approve to get the money. So they really can't operate on their own very much without getting reimbursement without FEMA operating in that area.

Senator MURPHY. Right.

Mr. DODARO. So I think basically what we've seen is that the structure of a responsible approach is being put in place.

Senator MURPHY. Great. Thank you very much.

Senator Lankford.

MORE COLLABORATION BETWEEN CBO AND GAO

Senator LANKFORD. Thanks.

Gentlemen, thanks again. I apologize, I'm running back and forth between votes and other hearings, and I'm not getting a chance to be able to get all of the dialogue today back and forth. I want to be able to go through a couple things.

Both of you the last couple of years have asked for additional staffing, reasonably so, on some of the issues you've dealt with and some of the expansion of issues that are still to come on cyber, science and all those things. Help me understand this. How can the

two teams work together more collaboratively when there's a surge moment?

Dr. Hall, you had a moment where you were dealing with healthcare issues, and you needed a surge of staff. Gene Dodaro has a bunch of healthcare folks on his team as well. Now, they're not economists, they're not used to doing the same thing, but is there a way that we can plan together when we have two teams of folks giving us oversight and giving us analysis of different pieces of legislation that we can actually put a process in place to be able to have at moments some cooperation between the two groups, though they have uniquely different functions? Is there a way to do that that you could see?

Dr. HALL. That's something we haven't thought about much, in part because, you know, people aren't terribly fungible. You have to have people who are—who are experts in an area.

Senator LANKFORD. Right, but in surge moments.

Dr. HALL. In surge moments, we already try to do more with that in terms of research assistance. We did—we threw a lot of people at it. Whether we could find expertise at GAO, you know, I don't know. We'd have to talk with them a little bit about that.

Senator LANKFORD. Okay.

Mr. DODARO. Yes, Keith is right. We really haven't explored that issue. But what I would say for——

Senator LANKFORD. Sure. You should ask for a GAO report on that.

[Laughter.]

Mr. DODARO. But I'm happy to have a discussion with Keith and see if there are some possibilities there.

Senator LANKFORD. Yes.

Mr. DODARO. But the point I would make, though, is that, and I'm not speaking for Keith, but just for GAO, we're already over-subscribed——

Senator LANKFORD. Right.

Mr. DODARO [continuing]. So whatever we do we hit peak periods, too——

Senator LANKFORD. Right.

Mr. DODARO [continuing]. We work with the committees to discuss trade offs, "Okay, if we do this work for you, we're not going to do this other work for several months." So whatever we do might help in the immediate, but it's going to have consequences to other support for the Congress.

TRANSPARENCY—INSIGHTS INTO CBO'S MODELS

Senator LANKFORD. Well, we ask a lot, as a Congress, of both of you, and there reaches a moment that we're overasking. That's why you're going through committee Chairs and Ranking Members to be able to say, "Okay, do you really need this?" because we've got to be able to figure out how to prioritize things.

It's entirely reasonable for both of you to be able to work through that process so people don't overask. But also at some point we've got to be able to find a moment to say, "Is there more cooperation that we can do together?" because, Dr. Hall, your peak periods are different than GAO's peak periods on a different issue, and there may be some cooperation that we haven't explored together. So I'll

just leave that out as an idea. I don't anticipate including that as a report document, but I would like to be able to at least broach that and say let's consider that.

Dr. Hall, you've done a lot of work, and we've had, in previous documents from Appropriations, some additional requests, and you have even worked with our team to be able to add more information about how models are done, how analytics are done. Your information that you've sent up to us for appropriations continues to include more viewing into the black box basically and how these things are done with statistics and background.

Tell me how that's moving in a time period that we can see that because the modeling of this is extremely important. As you know, with any scientific model, having other folks run numbers in the same model is exceptionally helpful, and then to be able to ask, "What are the variables in that model?" to be able to look at it and say, "Did you consider this?"

Dr. HALL. Sure.

Senator LANKFORD. Right now, we're not able to ask the reasonable question, "Was this considered?" And so for any of us to turn in any piece of legislation, we always wonder, "Where did that number come from?"

Dr. HALL. Sure. Well, we're doing—we are already doing a lot of things. We've already done quite a lot. We've tried to increase transparency in many ways, and we're trying to make good business decisions on how we do it, and what drives the most is what's most helpful to Congress, what's something we can do? And that can be everything from better documentation to spelling out key variables, that sort of thing.

There's a little bit of a focus—a bit of a focus on— on modeling code, and we can try to do that some, but the only thing I would again caution on this—I've talked about this a bit—models are tools that analysts use.

Senator LANKFORD. Right.

Dr. HALL. Right? And so more than anything else, you need an analyst who does his or her work carefully, considers a lot of things, uses the model appropriately if there's a model involved. So there's a lot more besides just the model.

We've done a lot of things, and we'd love to get some feedback on what's working, what you find helpful, what you don't find helpful. One of things I think we've done intentionally is we've cast a very broad net on ways to be transparent, and we're waiting to see what works.

Senator LANKFORD. Right.

Dr. HALL. And getting some feedback on that would be great because we still have a commitment to being more transparent.

REPORT COMPARING PREVIOUS ESTIMATES ON PROGRAMS

Senator LANKFORD. Yes. One of the things that you've included in your notes to us is your own requirement and deadline you're going to put together to be able to create a report to look at previous estimates on programs, on what you are expecting in deficit spending, whatever it may be, to look at, here's what we looked at in 2015, 2005, 2019, let's compare it to where we were same time, same period, to be able to help evaluate that.

Dr. HALL. Right.

Senator LANKFORD. That would be helpful to us, and because we're trying to be able to make decisions based on your estimates, and for you to be able to say, "Here's our variabilities as well." As we go through this, economists are never going to get it 100 percent right except for the economist that wrote it after it was over. So to be able to—anyone that's looking in the future to help us understand, "We think our margin of error is historically somewhere through here," would help us tremendously.

The challenge that we have—Chris and I would never do this, but there are other Members of the Senate that when they know they want a certain bill that's really in the jurisdiction of a different committee, but I'm not on that committee, so I'm going to write it in such a way that it lands in my committee, not in that one.

Now, again, the two Senators present, clearly we would never do that, but the reason I bring that up is once your model comes out and once the details are out, there will be Members of the House and the Senate that will do gymnastics to be able to write whatever it is, not for best legislative texts or long term, but best possible score coming from CBO. We're going to have to figure this out because the models are exceptionally important so that we know what the variables are we're dealing with, but we've got to be able to figure out how to be able to manage this so we don't have legislative Jiu-Jitsu to be able to write something that's not best text, but best for you, because at the end of the day it's going to be best for the American people, not best for CBO, but our scorekeeper is you. So if we don't get through you first, it never gets to the American people. Do you see what I mean?

Dr. HALL. Sure. And let me say, we've actually—we've really done a lot. We've got a pretty significant report at the end of last year of the number of things that we've done, and we do—we do, do a lot of self-assessment. We've actually—actually done that. We have—we do give you some idea how—what our error is. A year before I can tell you, a year ahead our typical revenue estimate is off by 1.5 to 2 percent.

Senator LANKFORD. Right.

Dr. HALL. And the outlays are something—something like the same. So we've got that process actually going where we're doing it annually. For every year, we're now going to look back to the prior year and produce a public report, and we did this year, as a matter of fact, of exactly how we did the prior year.

And one of the things I think is particularly challenging, and I think part of what you have in mind, is on individual scores, individual pieces of legislation, and that's really challenging often because knowing the effect of the legislation can be really difficult because the data gets mixed in with other accounts, and it can be really hard to sort that out.

Senator LANKFORD. Right.

Dr. HALL. So what we're trying to do is we've done a couple of those now, is we're looking for instances to do those again where the data is available to give you an idea on the expected area and particular estimates, particularly pieces of legislation.

And something else that probably should help is we're trying really hard to have a section on uncertainty in our estimates. We've redesigned our cost estimate format, and we set it up so it's more transparent, but there is now an uncertainty part of that. To try to give you the degree, we can tell you how uncertain our estimate is, we're going to try to tell you there.

Senator LANKFORD. Yes.

Dr. HALL. We're always hindered by the unknown unknowns, so sometimes it's qualitative rather than quantitative.

Senator LANKFORD. Yes. Only God doesn't have unknowns, and so we all deal with that, and I get that. But that's helpful for us in our dialogue because at times, and both sides of the aisle do it, they look at what you put out and say that's exactly what it's going to be, and you and all of your team know it's not exactly what it's going to be, it's our best guess——

Dr. HALL. Right.

Senator LANKFORD [continuing]. As we go through this. And so to know some of the variables as we work through it would be exceptionally helpful. The more transparent you can build the process, the more it gets us good information to be able to work through the process as well.

Dr. HALL. Good.

Senator LANKFORD. I appreciate that very much. Give us the time period you're thinking of for some of these reports. You list in your information that you're going to release the estimates as you listed the analyzing accuracy of CBO estimates and some reports on that.

Dr. HALL. Well, we've already produced some of those.

Senator LANKFORD. Right.

Dr. HALL. I'd be glad to follow up and point you to some of those and give you some idea of how we're going to repeat those over time.

Senator LANKFORD. Okay. Spacewise, let me ask one question, Gene, on your own space. Do you have the appropriate space and the footprint in the building you're in as far as leased out space, space for your folks? Any changes that you need?

Mr. DODARO. We're in good shape in space in our building. Actually, we're leasing out the third floor, most of the sixth floor now, not only to the Army Corps of Engineers headquarters, but also to units from the Justice Department as well to increase our revenue. I mean, that's——

Senator LANKFORD. Right. I knew that was coming.

Mr. DODARO. Yes.

Senator LANKFORD. I just didn't know how that's working out.

Mr. DODARO. It's working out fine. What we did was we hired an architect to redesign and make better use of the space. It's a big building.

Senator LANKFORD. You couldn't get the Army Corps to do that for you since they're moving in?

Mr. DODARO. Well, we thought there would be a conflict there. [Laughter.]

Mr. DODARO. That's working out very well. It's producing the revenue. We have enough space. We're allowing our people more

telework options, and they don't need the same degree of space in headquarters.

We've reduced our footprint in the field about 40 percent. There we have to lease from GSA, so we've avoided millions of dollars in rent increases in that area. I was just in Boston earlier this week in our field office there, and they've got nice space in the Tip O'Neill Federal Building. They're happy there because they have child care and everything available to them right in that facility.

Senator LANKFORD. That's great. Okay. Thank you.

Chris, thanks for letting me slip in.

Senator MURPHY. Thank you very much. Absolutely.

This concludes the Legislative Branch Appropriations Subcommittee hearing on the 2020 funding levels for GAO and CBO. Thank you both for testifying. The hearing record is going to remain open for 7 days. Members can submit statements or questions for the record. They should be sent to the subcommittee by close of business on Wednesday, April 17.

CONCLUSION OF HEARINGS

Senator MURPHY. And this subcommittee stands adjourned.

[Whereupon, at 4:33 p.m., Wednesday, April 10, the hearings were concluded, and the subcommittee was recessed, to reconvene subject to the call of the Chair.]

APPENDIX A

GOVERNMENT ACCOUNTABILITY OFFICE

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GAO

United States Government Accountability Office

Before the Subcommittee on the Legislative Branch, Committee on Appropriations, U.S. Senate

For Release on Delivery
Expected at 3:00pm ET,
Wednesday, April 10, 2019

FISCAL YEAR 2020 BUDGET REQUEST

U.S Government Accountability Office

Statement of Gene L. Dodaro,
Comptroller General of the United States

GAO-19-451T

GAO Highlights

April 2019

FISCAL YEAR 2020 BUDGET REQUEST

U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Background

GAO's mission is to support Congress in meeting its constitutional responsibilities and to help improve the performance and ensure the accountability of the federal government for the benefit of the American people. We provide nonpartisan, objective, and reliable information to Congress, federal agencies, and to the public, and recommend improvements across the full breadth and scope of the federal government's responsibilities.

GAO responded to requests from 90 percent of the standing full committees of the Congress in fiscal year 2018. GAO issued 633 reports, 1,650 new recommendations, and testified before 48 congressional committees 98 times. Congress used our work extensively to inform its decisions on key fiscal year 2018 and 2019 legislation. Since fiscal year 2000, GAO's work has resulted in:

- nearly $1 trillion dollars in financial benefits; and

- over 23,000 program and operational benefits that helped to change laws, improve public services, and promote sound management throughout government.

GAO remains an employer of choice in the public sector. The Partnership for Public Service announced again in 2018 that GAO one of the top places to work in the federal government, placing fourth position among mid-size agencies and first for supporting diversity.

View GAO-19-451T. For more information, contact Gene L. Dodaro at (202) 512-5500 or dodarog@gao.gov.

Since 2014, this Subcommittee has provided funding that has resulted in our work achieving over $340 billion in financial benefits and more than 6,300 other improvements in federal programs and operations for our government. In fiscal year (FY) 2018, GAO's work yielded a record $75.1 billion in financial benefits, a return of about $124 for every dollar invested in GAO. We also identified 1,294 other benefits that led to improved services and public safety for the American people and program and operational improvements across the government.

For FY 2020, GAO is requesting $647.6 million in appropriated funds, and authority to use $38.3 million in offsetting receipts and reimbursements, a 9.8 percent increase. These resources will fund 3,250 full-time equivalents (FTE). The funding requested will also allow us to continue to make investments in our information technology and infrastructure, security requirements, as well as address long deferred building maintenance needs.

This level of funding will enable GAO to meet the highest priority needs of the Congress, as we remain committed in helping Congress meet its constitutional responsibilities for the benefit of the American people. In FY 2018, for example, we received 786 requests, including hundreds of statutory requirements, for work from 90 percent of the standing committees of Congress supporting a broad range of oversight and legislative priorities. The activities planned for FY 2020 will better position GAO to assist the Congress in meeting its legislative and oversight responsibilities, accomplish our mission objectives and goals, and improve government performance and accountability.

In FY 2020, we will continue to support Congressional oversight across the wide array of government programs and operations. We also will continue to increase our capabilities to review the opportunities and challenges associated with evolving science and technology issues; the risks and management needs to address complex and growing cyber security developments; increased investments in the Department of Defense; and rising health care costs.

In January, we established a new Science, Technology Assessment, and Analytics team to continue and expand our focus on rapidly evolving science and technology issues. The team will focus on: (1) conducting technology assessments at the request of the Congress; (2) providing technical assistance to Congress on science and technology matters; (3) continuing to develop and use technical guides to assess major federal acquisitions and technology programs in areas such as cost estimating, schedule planning and technology readiness; (4) supporting Congressional oversight of federal science programs; and (5) advancing GAO's ability to use data analytics in auditing.

We also will continue to further enhance our capacity to assess efforts to protect our nation from cyber threats. Specifically, we recently highlighted urgent actions needed to ensure the cybersecurity of our nation. We also renamed our Information Technology team to Information Technology and Cybersecurity in order to better reflect the significant body of work the team does on protecting federal information systems, critical infrastructure, and individual privacy from cyber threats. GAO will also support continued congressional oversight of DOD's efforts to balance current operational deployments with fulfilling the full spectrum of future military needs, as well as the federal government's challenges in effectively and efficiently managing health care programs

_____ United States Government Accountability Office

Chairman Hyde-Smith, Senator Murphy, and Members of the Subcommittee, thank you for the opportunity to discuss our fiscal year (FY) 2020 budget request. I greatly appreciate the subcommittee's support of our efforts to serve the Congress and improve government performance, accountability, and transparency.

Since 2014, with the funding the Subcommittee has provided, GAO has produced work resulting in over $340 billion in financial benefits and more than 6,300 other improvements in federal programs and operations for our government. In fiscal year (FY) 2018, GAO's work yielded a record $75.1 billion in financial benefits, a return of about $124 for every dollar invested in GAO. We also identified 1,294 other benefits that led to improved services to the American people and program and operational improvements across the government.

Fiscal Year 2020 Request

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The chart below provides a summary by program for the FY 2020 request.

Table 1: FY 2018 – 2020 Summary of Resources by Program (dollars in thousands)

Program	Fiscal Year 2018 Actual		Fiscal Year 2019 Estimated		Fiscal Year 2020 Request		Net Change Fiscal Year 2019 / 2020	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Human capital	3,015	484,876	3,150	520,986	3,250	554,025	100 3.2%	33,037 6.3%
Engagement support		14,194		13,300		14,050		750 5.6%
Infrastructure operations		103,837		100,361		116,883		16,522 16.5%
Center for Audit Excellence		727		1,000		1,000		0 0.0%
Total budget authority	3,015	603,634	3,150	635,649	3,250	685,958	100 3.2%	50,309 7.9%
Offsets[a]		(34,566)		(45,899)		(38,321)		7,578 (16.5)%
Appropriation		$569,068		$589,750		$647,637		$57,887 9.8%

Source: GAO. I GAO-19-451T

[a] Includes offsetting receipts and reimbursements from program and financial audits; rental income; training fees, collection of bid protest system user fees; supplemental funds for disaster audits; and for FY 2019, carryover of FY 2018 two-year funds.

Meeting the Priority Needs of Committees Across Congress

In FY 2020, we will continue to support congressional oversight across the wide array of government programs and operations. We also will continue to increase our capabilities to review the opportunities and challenges associated with evolving science and technology issues; the risks and management needs to address complex and growing cyber security developments; increased investments in the Department of Defense; and rising health care costs.

Assessing Evolving Science and Technology Issues

Rapid advances in technology and science play an increasingly important role in our society. These potentially affect areas such as economic competitiveness, improved medical care and information security. The rapid development and use of these new disruptive technologies test the government's and the Congress's ability to evaluate their potential and assess their program and policy implications.

Our work has reflected the need to research and assess technology developments. In FY 2018, we reported on the emergence and implications of Artificial Intelligence, the benefits, risks, and regulatory

issues concerning Financial Technology (fintech), the need for revised cost estimation and scheduling policies by the National Science Foundation for large facilities, assessments of the National Aeronautics and Space Administration's (NASA) major projects, and critical infrastructure protection. We also used our technology readiness assessment best practices guide to evaluate major technical systems acquisitions such as those found at the Department of Defense (DOD), Department of Homeland Security (DHS), the Department of Energy (Energy), NASA and other agencies.[1]

To enhance our ability to provide Congress with thorough and balanced analysis of technological and scientific developments that affect our society, environment, and economy, we established the Science, Technology Assessment, and Analytics team in January 2019. Our new team will expand our support to Congress by:

- conducting technology assessments and providing technical services;

- reviewing science and technology programs and initiatives to assist in oversight of federal investments in research, development, and advanced manufacturing;

- compiling and utilizing best practices in engineering sciences, including cost, schedule, and technology readiness assessments; and

- establishing an audit innovation lab to explore, pilot, and deploy new advanced analytic capabilities, conduct research in information assurance, and explore emerging technologies that will impact future audit practices.

Technology Assessments, Our technology assessments explain the consequences that certain technology will have on the federal government—and on society as a whole.

- **Economic competiveness.** Our work has covered a range of topics including artificial intelligence, connectivity and the Internet of Things, innovation in data analytics, and 3D printing.

- **Energy and the environment.** We have reported on topics like improving municipal freshwater scarcity, reducing freshwater use in hydraulic fracturing and thermoelectric power plant cooling, and climate engineering.

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[1] We use these assessments in addition to two other best practices guides for capital acquisitions: life cycles cost estimating and project scheduling.

- **Health care.** We have evaluated enabling rapid diagnoses of infectious diseases and the implications of nanomanufacturing on human health. We are currently investigating the impact of artificial intelligence on health care.

- **Homeland security.** We have examined the use of explosive detection technologies to protect passenger trains, and the use of biometrics for border security.

GAO has published a number of technology assessments on established and emerging technology. We continue to provide evidence-based analysis to assist policymakers with the privacy and security implications of technology, as well as the management of federal investments in technology and science. We also develop best practice guides, such as our technology readiness assessment guide. Some of the key reports GAO has issued include:

Table 2: Technology Assessments and Science Forums

Technology Assessment: Artificial Intelligence: Emerging Opportunities, Challenges, and Implications GAO-18-142SP, Mar 28, 2018	Highlights of a Forum: 3D Printing: Opportunities, Challenges, and Policy Implications of Additive Manufacturing GAO-15-505SP, Jun 24, 2015
Chemical Innovation: Technologies to Make Processes and Products More Sustainable GAO-18-307, Feb 8, 2018	A Capsule Version of: Nanomanufacturing—Emergence and Implications for U.S. Competitiveness, the Environment, and Human Health GAO-14-406SP, May 19, 2014
Medical Devices: Capabilities and challenges of technologies to enable rapid diagnoses of infectious diseases GAO-17-347, Aug 14, 2017	Nanomanufacturing: Emergence and Implications for U.S. Competitiveness, the Environment, and Human Health GAO-14-181SP, Jan 31, 2014
Internet of Things: Status and implications of an increasingly connected world GAO-17-75, Published: May 15, 2017	Technology Assessment: Neutron Detectors: Alternatives to Using Helium-3 GAO-11-753: Published: Sep 29, 2011
Highlights of a Forum: Data and Analytics Innovation: Emerging Opportunities and Challenges GAO-16-659SP, Sep 20, 2016	Technology Assessment: Climate Engineering: Technical Status, Future Directions, and Potential Responses GAO-11-71, Jul 28, 2011
Technology Assessment: Municipal freshwater scarcity: Using technology to improve distribution system efficiency and tap nontraditional water sources GAO-16-474, Apr 29, 2016	Technology Assessment: Explosives Detection Technologies to Protect Passenger Rail GAO-10-898, Jul 28, 2010
Municipal Freshwater Scarcity: Survey of Technology Adoption by Municipal Water Utilities (GAO-16-588SP, April 29, 2016), an E-supplement to GAO-16-474 GAO-16-588SP, Published: Apr 29, 2016	Technology Assessment: Protecting Structures and Improving Communications during Wildland Fires GAO-05-380, Apr 26, 2005
Technology Assessment: Water in the Energy Sector: Reducing Freshwater Use in Hydraulic Fracturing and Thermoelectric Power Plant Cooling GAO-15-545, Aug 7, 2015	Technology Assessment: Cybersecurity for Critical Infrastructure Protection GAO-04-321, May 28, 2004
Technology Assessment: Nuclear Reactors: Status and Challenges in Development and Deployment of New Commercial Concepts GAO-15-652, Jul 28, 2015	Technology Assessment: Using Biometrics for Border Security GAO-03-174, Nov 15, 2002

Source: GAO. I GAO-19-451T

Management of Federal Technology and Science Programs – GAO also assess the management and coordination of federal research and development efforts, including investments in scientific facilities (such as telescopes and research vessels) and emerging technologies (like synthetic biology and quantum computing).

Figure 1: Management of Federal Technology and Science Programs

Defense

We evaluate the technology readiness assessments and overall project execution for complex weapons systems, such as the Columbia class ballistic missile submarine, military space systems, and border security technology.

Space

We assess federal military and civilian satellite programs and efforts to support and oversee telecommunications in the public interest.

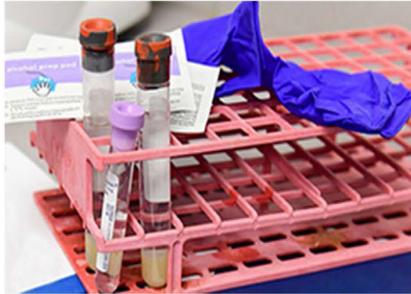**Energy and the environment**

We evaluate developing and deployed technologies in a range of activities, including renewable energy, civilian nuclear power, and cleanup of hazardous waste sites.

Sources (top to bottom): GAO, NASA, and GAO. | GAO-19-451T

Figure 1: (continued) *Management of Federal Technology and Science Programs*

Nuclear

We assess programs, infrastructure, technology readiness, and operations for the maintenance and management of nuclear weapons and missiles, as well as the aircraft and ships designed to carry and deliver them.

Health care

We assess new technologies for emerging infectious diseases, such as technologies that can simultaneously test for multiple infectious diseases at or near the site of patient care, and the impacts of new technology on human health, disease prevention, and the delivery of health care.

Science and innovation

We assess programs to promote innovation (such as federal support for advanced manufacturing institutes), as well as federal policies and funding for the protection of intellectual property.

Sources (top to bottom): GAO, GAO, and NIST Manufacturing Extension Partnership. | GAO-19-451T

Ongoing and planned technology assessments in FY 2019 include freshwater technologies in agriculture, the implications of artificial intelligence on healthcare, 5G wireless communications systems, and epidemiological models for emerging infectious diseases. The requested resources will enable us to expand and accelerate our work including potential technology readiness assessments of complex technical acquisitions such as nuclear modernization programs, the Army's Next Generation Combat Vehicle program, DHS border protection technologies, and Uranium Processing Facility, among others. To bolster the new team, GAO has begun efforts to recruit additional staff with expertise in:

- biological/life sciences for emerging infectious diseases, epidemiology, synthetic biology, biosafety, and biosecurity work;

- computer/systems/electrical engineering for digital and communications technologies (i.e., 5G wireless, Blockchain, quantum cryptography, artificial intelligence/machine learning systems);

- applied math/statistics/computer science for advanced analytics/data science/data engineering;

- nuclear physics for nuclear nonproliferation, waste management, weapons systems analysis, radiation/nuclear detection systems, quantum computing; and

- physics/aerospace engineering for hypersonics, advanced weapons systems, space systems, unmanned systems.

Based on interest expressed by various committees of jurisdiction, potential future work could focus on digital ledger technologies such as Blockchain, opioid-addiction vaccine development, autonomous vehicles, and regenerative medicine, among many others. Also, as we do in all areas, we will make our expert staff available to Members and staff to share knowledge and insight on technical and scientific matters.

Consistent with the 2019 Legislative Branch Appropriations Bill, Conference Report, we provided a detailed plan to this committee in March 2019. The report outlined our expanded capabilities on science and technology related issues, specific plans for additional staff and other resources, and the products and services the Team will provide to Congress. The document also describes the governance structures that will apply to the team's work, including technology assessments. To inform this plan, we conducted outreach to subject matter experts and

stakeholders. These include Members of Congress, congressional committees, alumni of the former Office of Technology Assessment, major scientific associations, the National Academies, and leading science and technology policy experts in universities and nonprofit institutions.[2]

Addressing Complex and Growing Cyber Security Threats

Federal agencies and the nation's critical infrastructures—such as energy, transportation systems, communications, and financial services—are dependent on cyber information systems and electronic data to carry out operations and to process, maintain, and report essential information. Our work in cybersecurity includes:

- **Critical infrastructure protection.** We work on how to protect the nation's critical infrastructure—including financial markets, telecommunications, the national airspace system, electricity grid, and oil and gas pipeline sector.

- **Federal information systems.** We evaluate the cybersecurity of key federal agencies, such as the Internal Revenue Service and the Department of Homeland Security.

- **Privacy.** We evaluate federal efforts to ensure the privacy of individuals in response to emerging technologies (such as the Internet of Things and artificial intelligence), the collection and use of personal information in the private sector through social media, and privacy in government programs (e.g., federal student aid and Medicare).

We also will continue to further enhance our capacity to assess efforts to protect our nation from cyber threats. Specifically, we recently updated our cybersecurity high-risk area based on our recent evaluations. We did so to highlight urgent actions that are needed by federal agencies to ensure the cybersecurity of our nation.[3] We also renamed our Information Technology team. Its new name, Information Technology and Cybersecurity (ITC), better reflects the significant body of work the team does on protecting federal information systems, critical infrastructure, and individual privacy and sensitive data from cyber threats. To reinforce

[2] As of March 15, 2019, GAO met with more than 30 expert stakeholders. GAO plans to continue to meet with stakeholders throughout the remainder of FY 2019.

[3] *High-Risk Series: Urgent Actions Are Needed to Address Cybersecurity Challenges Facing the Nation,* GAO-18-622 (Washington, D.C: Sept. 6, 2018).

GAO's cybersecurity audit capabilities, the ITC team is actively recruiting additional resources, including those participating in the CyberCorps Scholarship for Service program. The new recruits will augment our cadre of experts who can assess the criticality of cyber risks, both present and future, as well as evaluate the government's complex and multi-faceted attempts to address them.

Cyber-Based Threats to the Nation's Systems and Critical Infrastructure.

The cyberattacks suffered by the Office of Personnel Management, Equifax, and other large organizations in recent years highlight the increasing importance of cybersecurity. Threats from state and non-state actors are growing in sophistication, scope, and impact. These increasing threats could have a serious, or even potentially catastrophic, impact.

Attackers target increasing volumes of sensitive and Internet-accessible data by using ever-more powerful tools like automation, social media manipulation, vulnerability exploitation, and insider access to carry out attacks. These threats pose growing dangers for the entire federal government, the nation's infrastructure and democratic processes, and the privacy and financial security of American citizens.

As Congress turns to GAO for insightful analysis and advice to address these rapidly evolving threats, recruiting top-tier cyber talent to augment our current audit workforce is critical. Additional resources will allow us to quickly expand our audit capabilities related to key components of the cyber high-risk area, including evaluating efforts to protect federal systems, critical infrastructure, and individual privacy from cyber threats. Over the next two years, our planned efforts include assessing the federal government's efforts to establish and implement a comprehensive national cyber strategy, to evaluate government-wide initiatives to implement continuous diagnostics and monitoring capabilities, and to establish effective risk management processes at federal agencies. GAO is also evaluating key agency capabilities for responding to security incidents and data breaches, as well as assessing their security postures through detailed vulnerability assessments of agency network defenses.

Our work on the protection of critical infrastructure will continue to focus on two areas: (1) the cybersecurity of specific sectors,[4] including the electricity grid and the financial services and communications sectors, and (2) the effectiveness of the public-private partnership model as a framework for protecting the nation's critical assets from cyber threats.

As part of our work on critical assets, we are also starting work evaluating the cybersecurity implications of the move to 5G in the communications sector. Our work on the protection of individual privacy will also continue to focus on two areas: (1) federal efforts to protect consumers from data breaches and their after effect; and (2) whether federal agencies are applying data protection best practices when performing their own critical mission activities.

Overseeing Increased Investments in the Department of Defense

The Department of Defense (DOD) faces significant challenges in responding to a complex and rapidly evolving national security environment that includes instability in key regions of the world, cyber threats, and terrorist activities. As DOD works to sustain and advance its military superiority and achieve efficiencies that can be reinvested to increase readiness, it continues to undergo one of the most significant organizational realignments since the Goldwater-Nichols Act of 1986.

As you know, in support of DOD's mission, Congress entrusted DOD with considerable resources, about $686 billion in discretionary funds enacted in FY 2019, and Congress has directed GAO to review a broad range of DOD's activities to assist Congress in its oversight of this investment. Since 2006, GAO's work has resulted in 4,072 recommendations to DOD designed to strengthen the department's programs and operations. These recommendations focus on critical challenges facing the department, including rebuilding readiness, managing space capabilities, strengthening cyber defenses, acquiring and sustaining major weapon systems, and addressing inefficiencies in the military health system, among others.

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[4] Critical infrastructure includes systems and assets so vital to the United States that incapacitating or destroying them would have a debilitating effect on national security. These critical infrastructures are grouped by the following 16 industries or "sectors": chemical; commercial facilities; communications; critical manufacturing; dams; defense industrial base; emergency services; energy; financial services; food and agriculture; government facilities; health care and public health; information technology; nuclear reactors, materials, and waste; transportation systems; and water and wastewater systems.

GAO's work has led to the designation of seven DOD areas on our High Risk List, including financial management, weapon systems acquisitions, business systems modernization, and support infrastructure management, as well as the government-wide personnel security clearance process, for which DOD has significant responsibilities. Collectively, our work has resulted in over $70 billion in financial benefits since FY 2015. For example, we identified $36 billion in financial benefits from improvements to DOD's weapon systems acquisitions processes, an estimated $3.1 billion from improvements to DOD's method for setting standard fuel prices, and $849 million through identifying unexpended and unobligated balances in DOD's Military Personnel accounts.

GAO anticipates continuing to support congressional oversight of DOD by testifying during congressional hearings, providing quick-turn-around technical assistance, and issuing special oversight publications across a broad range of areas.

GAO will continue to interact extensively with committee staff on the Senate and House Armed Services Committees as they draft the annual National Defense Authorization Act, providing input on many legislative provisions based on GAO's work. For example, Congress approved a budget reduction of $1.3 billion for the Navy's frigate program, based on GAO's finding that more knowledge was needed before contracts were awarded.

GAO will also support congressional appropriators by conducting budget justification reviews on a variety of topics and defense operations and maintenance, weapon system acquisitions, personnel, and defense health care. GAO's review of DOD's 2019 research, development, and procurement budget request identified almost $2 billion in potential rescissions and reductions. GAO also will continue to issue annual "Quick Look" reports assessing the cost, schedule, and performance of about 80 major defense acquisition programs, helping support the Congress in overseeing the department's estimated $1.5 trillion in future spending on these systems.

GAO also continues to assess DOD's efforts to strengthen its financial management practices and efforts to obtain a clean opinion on its financial statements. DOD has never received a clean opinion on its financial statements, which prevents GAO from expressing an opinion on the consolidated financial statements of the federal government. Long-standing weaknesses in DOD's financial management adversely affect the economy, efficiency, and effectiveness of its operations. The same

financial management problems that prevented DOD from being auditable in the past, adversely impact its operations and its ability to achieve broader business transformation goals.

We anticipate a growing demand from the Congress for GAO's work regarding DOD. In the last year, for example, Congress signaled a continued emphasis on DOD's new Chief Management Officer as the driving force behind the department's business reform efforts. We have a number of ongoing audits assessing DOD's progress in this area, including reviewing DOD's efforts to implement cross-functional business reform teams and to achieve enterprise-wide efficiencies.

GAO will also support continued congressional interest in DOD's efforts to balance current operational deployments with training and equipping forces capable of fulfilling the full spectrum of military operations. We will continue to assess DOD's efforts to sustain its major weapon systems and address challenges from aging depot maintenance facilities. We will also review the plans, organization, and capabilities of the department's cyber operations; the safety and effectiveness of the U.S. strategic nuclear force; and DOD's investments in hypersonic weapons and associated defensive systems. We also anticipate further congressional interest in DOD's long-range strike fighter and next generation air dominance acquisition efforts, as well as a broad array of space-based programs.

Regarding DOD's efforts to control costs, we plan to continue assessing the costs, schedule, and technical capabilities of the Columbia class nuclear submarine program. We also plan to assess DOD's efforts to achieve efficiencies and reduce overlap and duplication, such as across its defense agencies and field activities. We will also continue to assess the department's approach and methodologies for improving the efficiency of the military health system and determining its medical workforce needs.

We will support the Congress in assessing DOD's efforts in implementing other key legislative requirements, including acquisition reform legislation aimed at streamlining DOD's processes for buying weapon systems.

With the resources requested, GAO will expand our work within and beyond these areas, helping ensure that we address the issues most important to the Congress and taxpayer during this critical period for DOD and our country's national defense.

Managing Rising Health Care Costs

Estimated at $1 trillion in FY 2018, growth in federal spending for major health care programs has exceeded the growth of GDP historically and is projected to grow faster than the economy. These health care programs include Medicare, Medicaid, and the Children's Health Insurance Program, along with federal subsidies for health insurance purchased through the marketplaces established by the Affordable Care Act (ACA) and related spending. Federal spending also supports health care for American Indians, veterans, service members and public health priorities, such as preventing and responding to infectious disease outbreaks and bio health threats. These federal commitments to health care programs are a key driver of the nation's fiscal spending. Growth in federal spending on health care is driven both by increasing health care spending per person and by increasing enrollment, in part stemming from the aging of the population.

The federal government faces challenges in effectively and efficiently managing health care programs. Specifically, the demands to meet Americans' health needs are growing in volume and complexity while oversight is becoming more challenging. Understanding these complexities and offering fact-based recommendations to address them requires advanced policy and analytical expertise. Congress has frequently sought our health care policy expertise on a range of health care issues. In 2018, we issued 85 products that examined access to and quality of care, drug availability and pricing, program expenditures and integrity, the protection of public health, and health care markets, among other topics. We made 123 recommendations to improve the efficiency and effectiveness of federal health care spending, and documented about $40 billion in savings in 2018 alone by agencies taking action on our recommendations.

GAO has also focused on health care issues through its biennial High Risk Report. With our 2017 High Risk Update, we designated the Indian Health Service (IHS) as high-risk. This area joins four other high-risk areas related to health care: Medicare, Medicaid, the Food and Drug Administration, and Department of Veteran Affairs (VA) Health Care.

In addition to these audit products, we annually respond to dozens of requests for informal assistance regarding federal health care policy and programs. The demand for this type of assistance continued in 2018, as committees considered evolving and complex health care policy changes. These requests ranged from making our subject matter experts available to answer detailed questions about the interworking of programs to providing time-sensitive data analysis.

Our health care policy experts also advise me on my statutory responsibilities for appointing members to six different health-related commissions.[5] Carefully considering each appointment to these commissions requires a high-degree of professional judgment and subject matter expertise and demands a significant investment of time by our health care senior executives.

Additional resources for our health care work would not only allow us to respond more quickly to congressional requests, it would allow us to expand our work on the drivers of health care costs. For example, the continued growth of the Medicare and Medicaid programs drives federal spending on health care and these programs are expected to place additional strain on the federal budget in the coming years, as each program is projected to top $1 trillion in annual expenditures within the next decade.

With decades of experience, our expertise positions us to examine the growth of Medicare spending relative to other components of the health care system (e.g., inpatient and post-acute care) and ask which is growing higher and faster. Our expertise also positions us to examine the incentives created by certain Medicare payment policies that drive excess and inappropriate utilization of services. Furthermore, our staff's Medicaid expertise positions us to explore issues like access, financing arrangements, delivery, and program integrity, all critical issues that are made more complex by the variation among state Medicaid programs.

In addition to examining the sustainability of these large federal health care programs, we would continue to examine how these health care programs and markets affect the daily lives of Americans and communities. For example, given:

- The complexities of the prescription drug market, we would continue to provide objective, unbiased examinations of trends in drug costs and identify options to control these costs.

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[5] GAO has responsibility for appointing members to six health care commissions, including the Health Information Technology Advisory Committee; Medicaid and CHIP Payment and Access Commission; Medicare Payment Advisory Commission; Patient-Centered Outcomes Research Institute (PCORI) Governing Board; PCORI Methodology Committee; and the Physician-Focused Payment Model Technical Advisory Committee.

- Congressional interest and the ongoing opioid epidemic, we would expand our work examining the federal government's effort to curb drug misuse.[6]

- Our high-risk designation of veterans' health care issues, we would provide real-time assessments of significant VA initiatives in these areas.

GAO Information Technology and Building Infrastructure

The resources we received for FY 2019, and request for FY 2020, will allow GAO to make strategic investments in information technology (IT), and GAO's facilities infrastructure. Funding in these areas enables GAO to make sound capital investments in new technology and address important funding requirements in support of our building facilities that will increase efficiency, lower operating costs, and allow us to increase our rental revenue.

Information Technology. GAO has a range of business applications, many of which rely on outdated technologies. A multi-year, multi-phase effort to improve our aging IT infrastructure is underway. This effort will allow us to further streamline business operations, increase staff efficiency and productivity, improve access to information, and facilitate a more agile and mobile workforce, all in a more secure environment. This modernization effort will include several components, some of which are discussed below.

In FY 2019 and FY 2020, we will:

- Continue our efforts to modernize content development, distribution, and publishing our reports. This effort, New Blue, will allow our reports to be formatted for and consumed on any internet-connected device. GAO will be publishing reports from each mission team in preparation for full deployment. Initial stakeholder feedback from congressional staff on New Blue has been very positive, specifically, the ability to access GAO products remotely for use during congressional hearings.

- Finish rolling out cloud-based technology to provide enhanced Unified Communication Tools (UCT) and collaboration capabilities within GAO for an increasingly mobile workforce. UCT supports our mobile

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[6] Congress directed GAO to conduct over a dozen studies in the 2018 Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities Act.

workforce / virtual presence goals to reduce the need for travel among field offices and headquarters, in addition to audit locations. This effort will modernize our suite of telecommunications tools, which will facilitate greater video conferencing, audio, data sharing, reduce redundant implementation and maintenance costs, and standardize the infrastructure that supports voice and data usage. In addition, this effort will migrate telecommunications infrastructure to a cloud hosted solution, which will reduce expenditures and fully integrate with enhanced collaboration tools.

- Deploy a cloud-based Web Content Management solution for GAO's external web site, www.gao.gov, which will better enable mobile content and increase customer satisfaction.

- Upgrade the virtual desktop infrastructure[7] to be more responsive to staff needs and better enable staff to conduct analysis and develop content. This effort will include upgrading the operating environment on our desktops to Windows 10 prior to Windows 7 being sunset in 2020.

- Implement software enhancements to automate and improve how GAO receives complaints regarding fraud, waste, and abuse through GAO's Fraudnet portal.

- Define the requirements to replace our decades old document and records management system, which houses the supporting documentation for our audit engagements and operational support programs. We are looking to move to a cloud-based Enterprise Content Management solution that provides enhanced functionality, including security, knowledge management, workflow automation, and business process management.

This solution will improve existing document and records management capabilities, and will do so with less administrative burden on employees. In addition, the solution will radically improve our ability to share knowledge across the agency and automate many routine workflows for engagement management and execution as well as for internal operations. This will free staff to focus their energies on content development and client and customer service. We expect to acquire and begin implementation of the solution in FY 2020.

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[7] Virtual desktop infrastructure (VDI) is virtualization technology that hosts a desktop operating system on a centralized server in a data center.

- Replace the agency's outdated Learning Management and Performance Management systems with a cloud-based Talent Management information system to track and manage training and development activities of GAO staff.

We also plan to expand our IT capacity to meet the demands of a larger GAO staff and support the new STAA Team and Audit Innovation Lab.

Facilities and Security. While most of GAO's staff is located at its Headquarters in Washington, DC, GAO maintains a presence in strategic locations throughout the country. GAO is always working to ensure our headquarters and field office locations operate as efficiently as possible, and we continue to reduce our real property footprint as we identify opportunities.

In FY 2018, GAO consolidated space in its headquarters building to maximize efficiency, freeing up over 40,000 square feet for use by another federal agency and increasing GAO's rental income. In a further effort to cut costs and reduce our real estate footprint, GAO is strategically moving its field offices into federally owned space as commercial leases expire. For example, GAO recently moved its San Francisco Office from a commercial lease in the financial district to a federal building in Oakland.

Over the next two years, GAO is also looking at options to relocate staff in Los Angeles and Chicago from commercial buildings. GAO is requesting additional funding related to these office moves to ensure we have funding needed for fixed costs related to moves and other expenses related to the office transitions. In addition, as reported in our FY 2018 financial statements, GAO has over $29 million of deferred but necessary maintenance at its headquarters building. This includes heating and air conditioning infrastructure and major electrical equipment that are original to our 67-year old building and past their useful life. Additional funds will help enable this work and protect these valuable assets from quickening deterioration.

Increased Classified Work. In recent years, GAO has received an increasing number of mandates and congressional requests for reviews that require GAO staff to have access to classified agency information, as well as reviews that require accessing information at higher classification levels. Further, GAO's Procurement Law division hears bid protests that involve classified information as part of its statutory responsibility for adjudicating bid protests of government contracts.

Given this increased demand, GAO began making corresponding infrastructure investments in FY 2017 and FY 2018. For example, GAO has increased the size of its secure space available in its headquarters for processing classified information at both the Secret and Top Secret and Sensitive Compartmented Information levels.

Additional funds in FY 2020 will help enable GAO to make further cost-effective technological and infrastructure improvements to support the anticipated increase in work involving classified information, such as

- upgrading and deploying additional secure video teleconference equipment for field offices;

- a new case management system to more efficiently track personnel security clearances;

- a new Classified Enterprise Content Management solution to enhance processing of classified products; and

- networked Top Secret and Sensitive Compartmented Information computer processing capabilities.

Assisting the Congress in Shaping Legislation

GAO continues to be recognized for its non-partisan, objective, fact-based, and professional analyses across the full breadth and scope of the federal government's responsibilities and the extensive interests of Congress.

Since our last budget request, Congress used GAO's work to make important legislative decisions. Examples linked directly to GAO's work include:

- **The Consolidated Appropriations Act of 2019.** Based on GAO work, Congress directs:

  - DOD to (1) mitigate the effects of flooding on roads and infrastructure on domestic installations that are vital to military operations; and (2) improve oversight of its global real property portfolio;

  - VA to (1) modernize and improve its appeals process; (2) improve the accuracy and fairness of Gulf War illness claims; (3) retrofit facilities to eliminate barriers to care for women veterans; (4) report on progress to improve oversight of the controlled

substance inspection program; and (5) improve staffing, recruitment, and retention strategies for physicians;

- DOE to (1) better account for fraudulent spending or other improper payments; (2) improve contract auditing and the tracking of meaningful data for fraud, waste, and abuse in its contracts; and (3) improve the Office of River Protection's ability to carry out oversight of its contractors' quality assurance programs.

- **The National Defense Authorization Act for Fiscal Year 2019.** Reflecting our past work, the Congress directs DOD to:

  - develop a plan to rebuild military readiness in 5 warfighting domains, including ground, air, sea, space, and cyberspace, as well as requiring GAO to annually review the department's plan through 2022;

  - provide military service members with training to enhance their employability within one year prior to their separation, and improve related performance reporting and monitoring;

  - require the Navy to provide detailed budget information for multi-billion dollar aircraft carrier dismantlement and disposal activities; and

  - require the Secretary of Defense to designate a component responsible for coordinating efforts to acquire a modernized Global Positioning System receiver, to maximize the government's return on a multi-billion dollar investment.

- In addition, a House report accompanying the Act directs DOD to:

  - use policy and technological solutions to manage risk and secure classified information and systems to counter insider threats; and

  - urge the Secretary of the Air Force and Secretary of the Navy, in concert with the F-35 Joint Program Office, to reduce F-35 sustainment costs.

- **The Good Accounting Obligation in Government Act (GAO-IG Act).** Signed into law on January 3, 2019, the act requires certain federal agencies:

  - to include a report in their annual budget justification that identifies the implementation status of each public GAO recommendation

that has been outstanding for at least one year and that not been implemented.[8]

- **The 2018 Omnibus Appropriations Act**. Based on GAO's work, the Congress directs:

  - the Veterans Health Administration (VHA) to research the overmedication of veterans that led to deaths, suicides, and mental health disorders;

  - DOD to align its (1) structure, (2) statutory parameters, and (3) regulatory
    guidance across federal prescription drug buying programs to increase its buying power and reduce costs;

  - DHS to (1) develop performance metrics for all deployed border security, (2) evaluate the individual and collective effect of deployed technologies, and (3) assess progress;

  - DHS to regularly assess advanced protective technologies for cybersecurity; and

  - federal agencies, such as DOD, National Cybersecurity and Communications Center, and Bureau of Indian Affairs, to report on how they plan to implement GAO recommendations.

- **The National Defense Authorization Act for Fiscal Year 2018.** Reflecting our past work, the Congress directs DOD to:

  - improve its budget guidelines, cost savings, leadership of business operations, military readiness goals and implementation strategies, and reduce vulnerabilities in military aircraft and risks to military installations from climate change;

  - increase reporting on the Columbia class nuclear submarine to keep the program on track;

  - change its space leadership structure;

  - reinstate annual reports on the time required to conduct investigations, adjudicate cases, and grant security clearances; and

  - establish new ways for agencies to modernize their legacy information technology.

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[8] For GAO's own reporting in response to the GAO-IG Act, see page 30.

- **The Disaster Recovery Reform Act of 2018.** In October 2018, based in part on GAO's work, Congress passed the 2018 Disaster Recovery Reform Act, which directs the Federal Emergency Management Agency (FEMA) to:

  - develop a National Public Infrastructure Pre-Disaster Mitigation fund to allow for a greater investment in building resilience before a disaster occurs;

  - make federal disaster assistance available to state and local governments for building code administration and enforcement;

  - reconsider the factors it uses to evaluate a jurisdiction's request for a major federal disaster declaration; and

  - update Congress on the development of a national preparedness assessment and efforts to avoid duplication across preparedness grants.

Federal funding for disaster assistance since 2005 is approaching half a trillion dollars (about $430 billion), most recently for hurricanes and wildfires in 2017 and 2018. These costs are expected to increase as extreme weather events become more frequent and intense. Increasing reliance on federal assistance is a key source of federal fiscal exposure. Since adding limiting the federal government's exposure by better managing climate change risks to our High Risk List in 2013, we have made several recommendations to help improve resilience to potential disasters.

Financial and Program Benefits

Financial Benefits. In FY 2018, financial benefits resulting from our work included (1) revising spending limits for Medicaid demonstration projects to assure that they are budget-neutral ($36.8 billion); (2) helping the Centers for Medicare & Medicaid Services (CMS) achieve and measure the benefits of its fraud prevention system ($1.3 billion); (3) identifying unexpended and unobligated balances in selected DOD accounts and proposing changes in its fuel pricing methodology ($5.3 billion); and (4) identifying unexpended and unobligated balances in DOD's Military Personnel accounts ($849 million).

Other Benefits. Many other benefits resulting from our work led to program and operational improvements. In FY 2018, we recorded 1,294 of these other benefits. For example, our work on **public safety and security:**

- positioned U.S. Customs and Border Protection to better protect U.S. manufacturers from economic harm and U.S. consumers from potential risks posed by counterfeit products sold online;

- resulted in comprehensive ready-for-sea inspections of Navy ships based in Japan and changes to sleep schedules after deadly collisions in the Pacific highlighted training, maintenance, and manning shortfalls that had contributed to insufficient sleep time for sailors;

- led the Transportation Security Administration (TSA) to begin updating and improving the risk assessment and strategy it uses to (1) secure airport perimeters, and (2) control access to restricted areas to better assess security issues at airports nationwide; and

- prompted the Department of Justice (DOJ) and the Office of National Drug Control Policy to begin developing results-oriented measures, such as reductions in overdose deaths, to help them assess progress made in combatting the nation's opioid epidemic.

Similarly, our work related to **vulnerable populations:**

- contributed to the Congress passing legislation to strengthen the nation's data on elder abuse by requiring annual data collection and reporting to support national prevention policy; and

- led the Federal Communications Commission to begin measuring the effectiveness of industry efforts to prevent wireless network outages helping to ensure that Americans who rely solely on them have access during emergencies.

In addition, our work in the **health care** area:

- prompted the Indian Health Service (HIS) to publish wait-time standards for primary care and urgent care visits to help it monitor patient access to care;

- led CMS to establish regular checks for identifying duplicate health coverage in both Medicaid and the health insurance exchange marketplaces, thereby helping to minimize the risk of the federal government paying twice for an individual's health insurance coverage; and

- prompted the Food and Drug Administration (FDA) and Drug Enforcement Administration to formalize procedures for sharing information that would allow FDA to better manage drug shortages.

Furthermore, our work in the area of agency operations:

- led FEMA to (1) pilot a data sharing process with states to allow it to identify potentially duplicative disaster assistance payments, and (2) make plans to create a similar process to manage future disasters;

- prompted the Office of the Director of National Intelligence to issue formal guidance and implementation guidelines to help federal agencies continually assess their employees' eligibility to hold security clearances and to do so uniformly; and

- prompted the Congress to require federal agencies to inform active duty military service members of their eligibility to receive student loans at a 6 percent interest rate to better ensure timely access to these loans and prevent overpayments.

Evaluating Federal Disaster Response and Recovery Issues

The Supplemental Appropriations for Disaster Relief Requirements Act of 2017 provided GAO with $14 million to conduct unanticipated disaster oversight and audit work associated with the catastrophic hurricanes and wildfires in 2017. GAO is evaluating a variety of topics including disaster contracting, response challenges, progress in multiple federal recovery programs, fraud prevention and internal controls, and is identifying recommendations to improve federal actions in all these areas.

So far, GAO has completed 11 disaster-related reports and has 25 additional ongoing audit engagements. Specifically, we have reported on the initial federal efforts to respond to Hurricanes Harvey, Irma, and Maria, as well as the California wildfires. We have also reported on disaster-related federal spending and identified a number of long-term recovery challenges in disaster-impacted areas, such as Puerto Rico and the U.S. Virgin Islands. Further, we identified challenges related to FEMA's disaster workforce and recommended actions to address weaknesses in federal disaster contracting practices.

Figure 2: Damaged Power Lines and Satellite Dish in Puerto Rico after Hurricane Maria in November 2017

Source: Federal Emergency Management Agency. | GAO-19-451T

In regard to ongoing work, we are evaluating disaster recovery programs for individuals and those with disabilities, efforts to strengthen disaster resilience and better prepare for future disasters, and efforts to restore the power grid in Puerto Rico, among other issues. Given the number of ongoing engagements and our reporting schedule, we anticipate that GAO will use all of the $14 million in disaster funds by the end of FY 2020. A complete list of the reports issued and audits currently underway is included as Enclosure II.

Figure 3: Nonprofit Volunteer Team Clearing Debris in Big Pine Key, Florida after Hurricane Irma

Source: GAO. | GAO-19-451T

Building Bodies of Knowledge

Through the products we issued in FY 2018, we continued to build on bodies of work related to our three broad strategic goals to (1) address current and emerging challenges to the well-being and financial security of the American people; (2) help the Congress respond to changing security threats and the challenges of global interdependence; and (3) help transform the federal government to address national challenges. Examples include:

- **Protection of children.** We reported on the need to (1) improve federal support to help states recruit and retain foster care families to meet demand; (2) develop guidance for states to help them better apply protections for substance-affected infants; (3) consider discipline disparities for Black students, boys, and students with disabilities in K-12 public schools; and (4) update guidance to better monitor lead in school drinking water.

- **Support of Veterans.** We reported on the need for VA to improve its oversight and evaluation of the effectiveness of its suicide prevention outreach activities. We found that VA's outreach activities dropped off in 2017 and 2018, and the office responsible for these activities lacked consistent leadership. We also found that VA did not have clear goals for evaluating the effectiveness of its outreach activities.

  We also reported on the need for (1) DOD to improve its monitoring of and reporting on its transitioning veterans program; (2) VA to further assess its performance and progress toward meeting its opioid safety goals for veterans; and (3) VHA to collect better data and evaluate its strategies for improving physician staffing, recruitment, and retention.

- **Advancement of health care.** We reported on the need to (1) better secure the electronic health information of Medicare beneficiaries; (2) improve federal oversight of the health and welfare of beneficiaries receiving Medicaid assisted living services; and (3) improve assessments of individuals' needs for home and community based services.

- **Oversight of military readiness.** We continued to monitor DOD's efforts to rebuild military readiness and reported on the need to (1) better plan for sustaining various military aircraft, including the new F-35; (2) reassess the utilization and organization of the Air Force F-22 Raptor fleet; (3) improve maintenance of the Navy's submarine fleet and the Army's Patriot missile defense system; and (4) clarify policies and gather reliable data to manage the impact of time away from home on service members and their families.

- **Assessment of technology and science.** We reported on (1) Artificial Intelligence applications in four areas – cybersecurity, automated vehicles, criminal justice, and financial services; (2) sustainable chemical innovation, new approaches that improve the chemistry behind medicines, personal care products, and other everyday items to reduce environmental impacts; (3) technologies to mitigate electromagnetic risks to the U.S. electric grid; and (4) quantum computing, synthetic biology, and other potentially transformational research and considerations for U.S. competitiveness.

- **Designation of High Risk areas.** In our latest March 2019 update, the ratings for seven areas improved, two to the point of coming off the list—Department of Defense Supply Chain Management and Mitigating Gaps in Weather Satellite Data. The rankings for more than

half of the over 30 areas on the list remained largely unchanged with three regressing. We also added VA Acquisition Management to the list after identifying seven VA contracting challenges. VA has one of the most significant acquisition functions in the federal government, in costs and numbers of contracts. Another issue—the Government-wide Personnel Security Clearance Process—was added to the list in January 2018 due to growing concerns about security clearance backlogs and other problems.

In FY 2018, our high-risk work in 35 areas resulted in 166 reports, 49 testimonies, $46.8 billion in financial benefits, and 526 other benefits. Financial benefits to the federal government due to progress in addressing high-risk areas over the past 13 years (fiscal year 2006 through fiscal year 2018) totaled nearly $350 billion or an average of about $27 billion per year. The updated list is included as Enclosure I.

- **Identification of Fragmentation, Overlap, and Duplication.** Our eighth annual report identified 68 new actions across 23 new program areas that could reduce fragmentation, overlap, and duplication, or provide other cost savings and revenue enhancement opportunities across the federal government. Congress and executive branch agencies addressed 724 of the actions identified from 2011 to 2017, leading to about $178 billion in financial benefits; $125 billion had accrued through 2017, with $53 billion more expected. An updated Fragmentation, Overlap, and Duplication report will be issued May 2019.

Focusing on Congressional Priorities

Serving Our Clients. In FY 2018, we issued 633 reports and made 1,650 new recommendations. Our senior executives were asked to testify 98 times before 48 separate committees or subcommittees on topics including key risks for the 2020 Census, improper payments under Medicaid, national defense preparedness, border security, and the nation's cybersecurity challenges. The table that follows lists examples of topics GAO addressed in testimony in FY 2018, grouped by our three external strategic goals.

Table 3: Selected GAO FY 2018 Testimonies

Goal 1: *Address Current and Emerging Challenges to the Well-being and Financial Security of the American People*

- Observations on DOJ's Grantees' Capacity to Process DNA Evidence
- Observations on the Supplement Nutrition Assistance Program
- Improving DOD's Oversight of its Program for Transitioning Veterans
- Observations on the Strategic Petroleum Reserve's Emergency Stockpile
- Addressing DOE Management Challenges

- Implementing Positive Train Control
- Addressing Native American Youth in the Justice System
- Reducing Risk of Harm to Medicare Beneficiaries from Prescription Opioids
- Improving the Transfer and Monitoring of Unaccompanied Children
- Improving Federal Management of Indian Programs
- Improving Oversight of VA Health Care Providers

Goal 2: *Respond to Changing Security Threats and the Challenges of Global Interdependence*

- Addressing Longstanding Management Challenges for Immigration Courts
- Improving Management of the Coast Guard's Acquisition Portfolio
- Securing the Southwest Border – Progress and Challenges
- Improving Navy and Marine Corps Plans to Train for Amphibious Operations
- Enhancing Information Sharing with Private Sector on the Counterfeits Market
- Improving Oversight of the Antiterrorism Assistance Program

- Using TSA Data to monitor Airport Operations Including Passenger Wait Times
- Preliminary Observations on Reported Injuries to U.S. Personnel in Cuba
- Monitoring Inter-American Assistance Agreements and U.S. Contributions
- Improving Management of DHS' Chemical Facility Security Program
- Improving VA's Medical and Surgical Supply Contracts to Reduce Cost

Goal 3: *Help Transform the Federal Government to Address National Challenges*

- Addressing Physical Security Challenges at NIST and Commerce
- Implementing High-Risk Recommendations for IT Acquisitions, Operations, and Cybersecurity
- Mitigating Key Risks for 2020 Census
- Improving Federal Regulatory Guidance Practices
- Addressing DHS' Urgent Cybersecurity Workforce Needs
- Addressing Cost Growth and Schedule Delays in NASA's Major Projects
- Improving Management of Medicare's Fraud Risks

- Addressing Management Challenges Presented by
- Budget Uncertainty
- Preparing for VA's Transition to a New Electronic Health Record System
- Improving Government Efficiency and Effectiveness to Reduce Federal Costs
- Observations on USPTO's Covered Business Method Patent Review Program
- Addressing Delays in NASA's Commercial Crew Program
- Observations on Challenges and Opportunities for Grants Management

Source: GAO | GAO-19-451T

Outreach Efforts. I continued my regular meetings with the Chairs and Ranking Members of congressional committees to obtain their views on GAO's work, including their priorities, and to discuss opportunities and challenges facing our nation.

I also sent letters to the heads of most federal departments to acknowledge the actions taken to date to implement our prior

recommendations and to draw their attention to priority recommendations still requiring their attention. These letters were also sent to the congressional committees of jurisdiction to inform their oversight.

We continue to collaborate with the Congress to revise or repeal mandated reporting requirements to align our work with current congressional priorities and maximize our staff resources.

Internal Improvements

Supporting Our People. The hard work and dedication of our diverse and professional multidisciplinary staff positioned GAO to achieve 97 percent on-time delivery of our products in FY 2018. We exceeded the targets for our seven people measures, new hire rate, retention rates with and without retirements, staff development, staff utilization, effective leadership by supervisors, and organizational climate. GAO also continued its distinction as a best place to work—the Partnership for Public Service ranked GAO fourth among mid-size federal agencies and first for supporting diversity.

Managing Our Internal Operations. In fiscal year 2018, we continued efforts to maximize our strategic goal to maximize our value by enabling quality, timely service to the Congress and being a leading practices federal agency. We made progress addressing our three internal management challenges: managing a quality workforce; improving the efficiency of our engagements; and ensuring the confidentiality, integrity, and availability of GAO's information technology services. We are on track to achieve 3,150 FTE in our FY 2019 hiring plan and expect to have over 3,250 staff on board at year-end.

In FY 2018 GAO deployed the Electronic Protest Docketing System (EPDS), made key security investments, and refreshed technology platforms needed to support our bid protest work. [9]

As previously mentioned, in FY 2019, we will complete the pilot of New Blue, a system that will allow analysts to more efficiently create and manage report content; streamline the publishing processes; and enable access on mobile devices. New Blue is planned to be rolled out across

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[9] The Consolidated Appropriations Act, 2014, included a provision for GAO to develop an electronic bid protest filing system. The statute also authorized the collection and use of fees to offset the costs of that system. GAO successfully piloted and launched its new system, EPDS, in 2018.

GAO following the conclusion of the pilot. If you are interested in reviewing a GAO product in the new format, please see GAO-18-312.

To enhance information technology services, we continued to strengthen monitoring and detection of malicious activity to counter escalating cybersecurity threats.

In keeping with our effort to continuously improve our operations, GAO migrated to the Legislative Branch Financial Management System (LBFMS) Momentum Financial operated by the Library of Congress. The system serves as our integrated Financial Management System and is hosted in a FedRAMP compliant and secure facility. LBFMS improved internal controls over invoicing processing, reduced data entry errors, and increased efficiency and timeliness of payments.

GAO also received an unmodified or "clean" opinion from independent auditors on our financial statements for FY 2018 and our internal control over financial reporting. Independent auditors found no reportable noncompliance with provisions of applicable laws, regulations, contracts, and grant agreements tested. We demonstrated that all detailed performance and financial information is complete and reliable and meets high standards for accuracy and transparency.

Good Accounting Obligation in Government Act Reporting

With regard to the recommendations from GAO's Office of the Inspector General (OIG), GAO has implemented all of the recommendations issued by the OIG prior to January 2018. Additionally, GAO has determined that it will implement the three open OIG recommendations that have been issued within the past 12 months and expects that implementation will be completed within calendar year 2019.

Legal Work

In FY 2018, we addressed about 2,600 bid protest cases and issued more than 600 decisions on the merits. In addition, we published 15 appropriations law products, including five products to carry out GAO's responsibilities under the Impoundment Control Act regarding the President's special message of May 2018.

Strategic Planning

GAO issued its latest Strategic Plan for Serving the Congress and the Nation in February 2018, covering FYs 2018 to 2023. As the nation confronts a series of both new and long-standing challenges, this plan describes our goals and strategies to support the Congress to identify

cost savings and other financial opportunities; to make government more accountable, efficient and effective; and ultimately to improve the safety, security, and well-being of the American people. GAO's Strategic Plan provides a comprehensive roadmap for how the agency will support the most important priorities of Congress and the American people.

This plan reflects the full scope of the federal government's operations, as well as emerging and future trends that may affect government and society. As part of our strategic planning process, we emphasize foresight, continuous environmental scanning, and trend analysis as essential to helping inform our decision-making and long-term planning.

The plan is comprised of three sections: strategic goals and objectives; key efforts; and trends that provide overall context supporting our long-range planning. The current strategic plan framework (Enclosure III) summarizes these global trends affecting government and society, as well as the strategic goals and objectives that guide our work.

There are eight trend areas in GAO's 2018 – 2023 plan including:

1. **Domestic and Global Security:** Global conditions affecting U.S. and international security;

2. **Fiscal Outlook and the Debt:** The federal government's long-term unsustainable fiscal path;

3. **Economics and Trade:** Global response to challenges posed by divergent economic growth;

4. **Jobs and Education:** Technological advances and their impact on preparing the workforce of the future;

5. **Demographics and Society:** Demographic changes and their implications for U.S. society and economy;

6. **Science and Technology:** Five emerging technologies and scientific advances that could potentially transform society (Genome Editing; Artificial Intelligence and Automation; Quantum Information Science; Brain/Augmented Reality; and Cryptocurrencies and Blockchain);

7. **Government and Governance:** Increasingly complex governance relationships and practices; and

8. **Environment and Sustainability:** Balancing competing natural resource and sustainability needs.

Center for Audit Excellence

The Congress authorized GAO to establish a Center for Audit Excellence (the Center) in 2014 to provide training and technical assistance to enhance the capacity of domestic and international accountability organizations. GAO contributes to a number of efforts that promote good governance and enhance the capacity of the accountability community. The Center uniquely offers a wide range of training and technical assistance services at locations throughout the United States and the world. The Center is authorized to charge fees for its services to facilitate recovery of its costs.

Since its opening in October 2015, the Center has expanded its volume of business significantly and increased annual revenue from $41,000 in fees in FY 2016 to $624,000 in FY 2018. Further, the Center has provided training or technical assistance services to over two dozen federal, state, local and international accountability organizations. Several of these organizations have returned to the Center repeatedly for training and technical assistance services to help build staff capacity in applying auditing concepts and tools.

In FY 2018, the Center provided training and technical assistance to 12 domestic audit organizations, including federal inspectors general and state and local audit offices. Center services helped these organizations improve their staff members' understanding of federal internal control standards, Government Auditing Standards, and performance audit methodologies. For example, the Center provided 10 classes on internal control to one federal audit organization. Based on formal and informal feedback, the vast majority of training participants found Center training to be greatly useful.

The Center also provided technical assistance to three national audit institutions in Europe and Central America during FY 2018 to enhance their capacity to conduct and achieve results from performance audits. For example, the Center helped a national audit institution in Eastern Europe enhance its capacity to conduct information technology audits and helped another national audit institution assess and improve its process for documenting financial benefits resulting from audits. The Center also provided technical assistance on a project funded by the Millennium Challenge Corporation to help enhance the performance audit capacity of a national audit institution in Central America.

In April 2016, the Center signed a Memorandum of Understanding (MOU) with the U.S. Agency for International Development (USAID) to collaborate in enhancing audit capacity and accountability in developing

countries. In FY 2018, under the MOU, the Center assessed the capacity building needs of an African country's audit institutions for USAID and identified areas for improvement. In November 2018, the Center signed an agreement with USAID/Philippines to provide training and technical assistance services to the Philippine Commission on Audit to strengthen their capacity to conduct performance audits. USAID expects the total estimated cost of the 3-year project to be $1.48 million and has obligated $500,000 for services to be provided by the Center in the first year.

The Center continues to implement its business plan and look for additional ways to build on its accomplishments and strengthen the capacity of accountability partners to enhance the oversight of U.S. federal funds used domestically and across the globe. For example, during FY 2019, the Center plans to expand its international work further by leveraging its MOU with USAID and expanding partnerships with other organizations such as the World Bank.

Concluding Remarks

We value the opportunity to provide Congress and the nation with timely, insightful analysis on the challenges facing the country. I would like to thank the Committee again for its support of GAO and the FY 2019 Budget. Our FY 2020 budget requests the resources to ensure that we can continue to address the highest priorities of the Congress.

Our request will allow us to continue building our staffing level and provide our employees with the appropriate resources and support needed to serve the Congress effectively. This funding level will also allow us to continue efforts to promote operational efficiency and address long-deferred information technology investments and maintenance. We will also continue to explore opportunities to generate revenue to help offset our costs.

I appreciate, as always, your careful consideration of GAO's budget and your continued support.

Enclosure I: GAO's 2019 High Risk List

High Risk Area	Year Designated
Strengthening the Foundation for Efficiency and Effectiveness	
Improving Federal Programs that Serve Tribes and Their Members[a]	2017
2020 Decennial Census[a]	2017
U.S. Government's Environmental Liability[a]	2017
Improving the Management of IT Acquisitions and Operations	2015
Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks[a]	2013
Management of Federal Oil and Gas Resources	2011
Modernizing the U.S. Financial Regulatory System[a]	2009
Restructuring the U.S. Postal Service to Achieve Sustainable Financial Viability[a]	2009
Resolving the Federal Role in Housing Finance[a]	2013
Funding the Nation's Surface Transportation System[a]	2007
Managing Federal Real Property	2003
Strategic Human Capital Management	2001
Transforming DOD Program Management	
DOD Approach to Business Transformation	2005
DOD Support Infrastructure Management[a]	1997
DOD Business Systems Modernization	1995
DOD Financial Management	1995
DOD Weapon Systems Acquisition	1990
Ensuring Public Safety and Security	
Government-wide Personnel Security Clearance Process (**new**)[a]	2018
Protecting Public Health through Enhanced Oversight of Medical Products	2009
Transforming EPA's Processes for Assessing and Controlling Toxic Chemicals[a]	2009
Ensuring the Effective Protection of Technologies Critical to U.S. National Security Interests[a]	2007
Improving Federal Oversight of Food Safety[a]	2007
Strengthening Department of Homeland Security Management Functions	2003
Ensuring the Cybersecurity of the Nation[a]	1997
Managing Federal Contracting More Effectively	
VA Acquisition Management (**new**)	2019
DOD Contract Management	1992
DOE's Contract Management for the National Nuclear Security Administration and Office of Environmental Management[a]	1990
NASA Acquisition Management[a]	1990
Assessing the Efficiency and Effectiveness of Tax Law Administration	
Enforcement of Tax Laws[a]	1990

High Risk Area	Year Designated
Modernizing and Safeguarding Insurance and Benefit Programs	
Managing Risks and Improving VA Health Care[a]	2015
National Flood Insurance Program[a]	2006
Improving and Modernizing Federal Disability Programs	2003
Pension Benefit Guaranty Corporation Insurance Programs[a]	2003
Strengthening Medicaid Program Integrity[a]	2003
Medicare Program & Improper Payments[a]	1990

Source: GAO. I GAO-19-451T

[a]Legislation is likely to be necessary in order effectively address this area.

Enclosure II – Federal Disaster Response and Recovery Engagements

Completed Engagements:	Disaster Assistance: Opportunities to Enhance Implementation of the Redesigned Public Assistance Grant Program. GAO-18-30, November 8, 2017.
	2017 Disaster Contracting: Observations on Federal Contracting for Response and Recovery Efforts. GAO-18-335, February 28, 2018.
	Federal Disaster Assistance: Individual Assistance Requests Often Granted but FEMA Could Better Document Factors Considered. GAO-18-366, May 31, 2018.
	2017 Hurricanes and Wildfires: Initial Observations on the Federal Response and Key Recovery Challenges. GAO-18-472, September 4, 2018.
	Homeland Security Grant Program: Additional Actions Could Further Enhance FEMA's Risk-Based Grant Assessment Model. GAO-18-354, September 6, 2018.
	Continuity of Operations: Actions Needed to Strengthen FEMA's Oversight and Coordination of Executive Branch Readiness. GAO-19-18SU, November 26, 2018.
	2017 Disaster Contracting: Action Needed to Better Ensure More Effective Use and Management of Advance Contracts. GAO-19-93, December 6, 2018.
	U.S. VIRGIN ISLANDS RECOVERY: Status of FEMA Public Assistance Funding and Implementation. GAO-19-253, February 25, 2019.
	PUERTO RICO HURRICANES: Status of FEMA Funding, Oversight, and Recovery Challenges. GAO-19-256, March 14, 2019.
	Huracanes de Puerto Rico: Estado de Financiamiento de FEMA, Supervisión y Desafíos de Recuperación. GAO-19-331, March 14, 2019.
	DISASTER RECOVERY: Better Monitoring of Block Grant Funds Is Needed. GAO-19-232, March 25, 2019.

Ongoing Engagements:	1. Federal post disaster contracts;
	2. Disaster assistance for older Americans and individuals with disabilities;
	3. Puerto Rico and U.S. Virgin Islands power grid restoration;
	4. Review of U.S. Virgin Islands recovery planning and progress;
	5. Puerto Rico disaster recovery planning and progress;
	6. 2017 wildfire response and recovery;
	7. Federal internal control plans for disaster assistance funding;
	8. Electricity grid restoration and resilience after the 2017 hurricane season;
	9. Mass care sheltering and feeding challenges during the 2017 hurricanes;
	10. DOT highway and transit emergency relief funding;
	11. Drinking water and wastewater utility resilience;
	12. Review of disaster death count information in selected states and territories;
	13. Department of Health and Human Services Disaster Response Efforts;
	14. Disaster and climate change impacts on Superfund sites;
	15. FEMA Public Assistance program fraud risk management efforts;
	16. Fuel reduction efforts for wildland fires;
	17. Preparedness challenges and lessons learned from the 2017 disasters;
	18. FEMA workforce management and challenges;
	19. Small Business Administration response to 2017 disasters;
	20. Development of the GAO disaster resilience framework;
	21. FEMA Individual Assistance programs and challenges;
	22. National Flood Insurance Program (NFIP) post-flood enforcement;
	23. Emergency alerting capabilities and progress;
	24. National Flood Insurance Program buyouts and property acquisitions; and
	25. Economic costs of large-scale natural disasters and impacts on community recovery.

Enclosure III – GAO's Strategic Plan Framework

GAO'S STRATEGIC FRAMEWORK

MISSION	GAO CORE VALUES	
	MISSION VALUES	PEOPLE VALUES
GAO exists to support the Congress in meeting its constitutional responsibilities and to help improve the performance and ensure the accountability of the federal government for the benefit of the American people.	• Accountability • Integrity • Reliability	• Valued • Respected • Treated Fairly

TRENDS SHAPING THE UNITED STATES AND ITS PLACE IN THE WORLD

GLOBAL SECURITY · DEBT AND FISCAL OUTLOOK · ECONOMICS, TRADE, AND CONNECTEDNESS · EDUCATION AND EMPLOYMENT · CHANGES IN PEOPLE AND SOCIETY · SCIENCE AND TECHNOLOGY · GOVERNMENT AND GOVERNANCE · ENVIRONMENT AND SUSTAINABILITY

GOALS AND OBJECTIVES

WELL-BEING AND FINANCIAL SECURITY

Goal: Provide timely, quality service to the Congress and the federal government to address current and emerging challenges to the well-being and financial security of the American people related to...

STRATEGIC OBJECTIVES

• Health care needs
• Lifelong learning
• Challenges facing an aging population
• Effective system of justice
• Housing finance and viable communities
• Stable financial system and consumer protection
• Natural resources and the environment
• National infrastructure
• Benefits and protections for workers, families, and children

NATIONAL SECURITY AND GLOBAL INTERDEPENDENCE

Goal: Provide timely, quality service to the Congress and the federal government to respond to changing security threats and challenges of national security and global interdependence involving...

STRATEGIC OBJECTIVES

• Homeland security
• Military capabilities and readiness
• Foreign policy and international economic interests
• Intelligence Community's management and integration

NATIONAL CHALLENGES

Goal: Help transform the federal government to address national challenges by assessing...

STRATEGIC OBJECTIVES

• Government's fiscal position and approaches to address current and projected fiscal gaps
• Major management challenges and program risks
• Fraud, waste, and abuse and needed improvements in internal controls

MAXIMIZE GAO VALUE

Goal: Maximize the value of GAO by enabling quality, timely service to the Congress and by being a leading practices federal agency by focusing on...

STRATEGIC OBJECTIVES

• Empowering GAO's workforce to excel
• Delivery of quality results and products
• Promotion of knowledge sharing, government standards and strategic solutions
• Providing modern integrated tools and systems

GAO STRATEGIC PLAN 2018–2023   GAO-18-1SP

Source: GAO. I GAO-19-451T

GAO's Mission	The Government Accountability Office, the audit, evaluation, and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.
Obtaining Copies of GAO Reports and Testimony	The fastest and easiest way to obtain copies of GAO documents at no cost is through GAO's website (https://www.gao.gov). Each weekday afternoon, GAO posts on its website newly released reports, testimony, and correspondence. To have GAO e-mail you a list of newly posted products, go to https://www.gao.gov and select "E-mail Updates."
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Congressional Relations	Orice Williams Brown, Managing Director, WilliamsO@gao.gov, (202) 512-4400, U.S. Government Accountability Office, 441 G Street NW, Room 7125, Washington, DC 20548
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APPENDIX B
Congressional Budget Office

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Testimony

CBO's Appropriation Request for Fiscal Year 2020

Keith Hall
Director

Before the
Subcommittee on the Legislative Branch
Committee on Appropriations
United States Senate

April 10, 2019

Chairman Hyde-Smith, Ranking Member Murphy, and Members of the Subcommittee, thank you for the opportunity to present the Congressional Budget Office's budget request. And thank you also for your long-standing support of CBO. That support has allowed CBO to provide budgetary and economic analysis that is timely, thoughtful, and nonpartisan as the Congress addresses issues of critical importance.

CBO is asking for appropriations of $53.6 million for fiscal year 2020. That amount represents an increase of $2.8 million, or 5.6 percent, from the $50.7 million provided to CBO for 2019. Of the total amount, nearly 91 percent would be used for personnel costs.

Reasons for the Requested Increase in Funding

CBO requests an increase of $2.8 million for two priorities—to pay for current staffing and to bolster transparency and responsiveness. Last year, the Congress increased CBO's budget to put in place a multiyear plan to increase the agency's capacity to make its work as transparent and responsive as possible, and the increase requested now would allow the agency to continue to pursue that plan.

Paying for Current Staffing

CBO requests an increase of $1.3 million to fund current staffing levels in 2020. That amount would be used for a small increase in employees' average salary and benefits to provide merit-based pay raises and keep pace with inflation.

Bolstering Transparency and Responsiveness

The increase would include $1.2 million to fully fund 14 staff members hired throughout fiscal year 2019. (The addition in terms of full-time-equivalent positions, or FTEs, would be 7.6.) The increase would also include $0.3 million for 6 new hires in fiscal year 2020. (The addition in terms of FTEs would be 1.4.)

CBO's Budget Request and Its Consequences for Staffing and Output

In fiscal year 2020, CBO will continue its mission of providing objective, insightful, clearly presented, and timely budgetary and economic information to the Congress. To fulfill that mission, CBO requests $53.6 million in funding. The requested funds would be used for personnel costs (that is, salaries and benefits), information technology (IT), and other costs, such as training.

Funding Request for Personnel Costs and Consequences for Staffing

CBO requests $48.7 million for salary and benefits. Those funds would support 264 FTEs. The requested amount represents an increase of $2.8 million, or 6.1 percent, from the amount provided for 2019. Of the total requested amount:

■ $36.5 million would cover salaries for personnel—an increase of $2.3 million, or 6.7 percent, from the amount that will be spent in fiscal year 2019. The increase would include $0.9 million in pay to fully fund the 14 staff members hired in 2019 and $0.2 million for the 6 new hires. The increase would also cover performance-based salary increases for current staff and an across-the-board increase of 1.9 percent for employees earning less than $100,000. And it would provide funds for 3 FTEs for CBO's intern program.

■ $12.2 million would fund benefits for personnel—an increase of $0.5 million, or 4.4 percent, from the amount projected to be spent in 2019. The increase would cover a boost in the cost of federal benefits, fully fund benefits for the 14 staff members hired in 2019, and pay for benefits for the 6 new staff members.

Funding Request for Nonpersonnel Costs

CBO requests $4.9 million for costs other than personnel. Those funds would cover current IT operations—such as software and hardware maintenance, software development, purchases of commercial data, communications, and equipment purchases—and would pay for travel, training, interagency agreements, facilities support, printing and editorial support, expert consultants, financial management auditing support, interactive graphic tools, and subscriptions to library services.

The requested amount is roughly unchanged from the amount that will be spent in fiscal year 2019. That is the result of offsetting effects. The 2020 amount is pushed up in relation to the 2019 amount mainly because CBO plans to further develop tools to analyze and present data and would need to purchase additional resources to support a larger staff. But the 2020 amount is pushed down in relation to the 2019 amount mainly because CBO anticipates achieving efficiencies in its IT operations and because costs in 2019 have been temporarily boosted by onetime agencywide training.

Consequences for Output

The requested amount of funding would allow CBO to do the following for the Congress:

■ Provide roughly 700 formal cost estimates (and significantly more than that number if legislative activity is as high as it was in 2018, when CBO provided 947 estimates), most of which will include not only estimates of federal costs but also assessments of the cost of mandates imposed on state, local, and tribal governments or the private sector;

■ Fulfill thousands of requests for background information and technical assistance, the demand for which is very high as committees seek a clear picture of the budgetary impact of proposals and variants of proposals before they formally consider legislation;

■ Produce about 150 scorekeeping tabulations, including account-level detail for individual appropriation acts at all stages of the legislative process, as well as summary tables showing the status of discretionary appropriations (by appropriations subcommittee) and running totals on a year-to-date basis; and

■ Publish about 70 analytic reports and papers—generally required by law or prepared in response to requests from the Chairmen and Ranking Members of key committees—about the outlook for the budget and the economy, major issues affecting that outlook under current law, the budgetary effects of policy proposals that could change the outlook, and a broad range of related budget and economic topics in such areas as defense policy, infrastructure, Social Security, and housing.

The agency would also continue to bolster its transparency and responsiveness by increasing its staff's availability to meet surges in demand and by dedicating more staff to creating publications that explain and graphically illustrate CBO's work.

Despite high productivity by a dedicated staff, CBO expects that the volume of estimates and other analyses will fall short of the number of requests from committees and Congressional leadership and will fall considerably short of the number of requests from individual Members. The demands on the agency remain intense and strain its resources in many areas. For example, the workload associated with the analysis of appropriations continues to be heavy. Also, over the past year, CBO analyzed legislation related to financial reform, farm programs, nutrition programs, housing assistance for veterans, pension reform, disaster assistance, opioid abuse, and cybersecurity. CBO regularly consults with committees and leadership to ensure that its resources are focused on the work that is of highest priority to the Congress.

Transparency

CBO has always worked hard to make its analysis transparent, and the agency anticipates that almost all of its current employees will spend part of their time on such efforts. Moreover, CBO recently put in place a plan to strengthen those efforts. The Congress increased CBO's budget for 2019 in part to hire new staff to contribute to transparency and bolster responsiveness. To enhance transparency, CBO plans to hire 10 staff members in 2019 and proposes to hire 6 more in 2020.

During the next two years, CBO will undertake many different activities to make its analysis transparent.

Testifying and Publishing Answers to Questions
In 2019 and 2020, CBO expects to testify about its baseline projections and other topics as requested by the Congress. That work will involve presenting oral remarks, answering questions at the hearings, and presenting written statements, as well as publishing answers to Members'

subsequent questions for the record. CBO will continue to work to resolve issues raised as part of the oversight provided by the budget committees and the Congress generally. In addition, the agency expects that Members of Congress will ask other questions to which it will provide published responses.

Explaining Analytical Methods

CBO plans to publish short reports providing general information to help Members of Congress, their staff, and others better understand its work. One such report will provide brief explanations of some important concepts related to the Congressional budget process. For example, that report will explain differences among authorizations, appropriations, rescissions, and reappropriations. Another will explain the differences between two types of estimates used for credit programs: estimates prepared using the methodology specified in the Federal Credit Reform Act, which applies to most federal credit programs, and estimates prepared on a fair-value basis, which incorporates market risk. And another short report will explain key scorekeeping rules and how they have been used in providing estimates for recent legislation.

CBO will publish a substantial amount of technical information about updates to its health insurance simulation model (HISIM). CBO also will provide technical information about several other methods used to analyze the effects of federal policies. In addition to segments of computer code from HISIM, CBO plans to release some code from other models.

Releasing Data

In 2019 and 2020, CBO will continue to publish extensive sets of data in conjunction with its major recurring reports, including detailed information on 10-year budget projections, historical budget outcomes, 10-year projections for trust funds, revenue projections by category, spending projections by budget account, tax parameters and effective marginal tax rates on labor and capital, and 10-year projections of economic variables, as well as data about the economy's maximum sustainable output.

The agency will also provide details about baseline projections—this year with more supporting spreadsheets—covering the following: the Pell grant program, student loan programs, Medicare, the military retirement program, the pension benefit guarantee program, the Social Security Disability Insurance program, the Social Security Old-Age and Survivors Insurance program, the trust funds for Social Security, child nutrition programs, child support enforcement and collections, foster care and adoption assistance programs, the Supplemental Nutrition Assistance Program, the Supplemental Security Income program, the Temporary Assistance for Needy Families program, the unemployment compensation program, the Department of Agriculture's mandatory farm programs, federal programs that guarantee mortgages, programs funded by the Highway Trust Fund, benefits for veterans and military personnel stemming from the Post-9/11 GI Bill, and veterans' disability compensation and pension programs.

Other data will provide details about long-term budget projections, projections underlying Social Security estimates, more than a thousand expired or expiring authorizations of appropriations, and dozens of federal credit programs. When CBO analyzes the President's budget request, it will post a set of files providing estimates of the budgetary effects of specific proposals. Throughout the year, the agency will post the data underlying the figures in various reports.

Analyzing the Accuracy of CBO's Estimates

In 2019 and 2020, CBO will release reports analyzing the accuracy of its past projections of outlays, revenues, deficits, and debt. As part of a continuing series of reports about the accuracy of its previous cost estimates, CBO will reexamine its original estimates of certain legislation. A report on the accuracy of CBO's economic forecasts will be released. And CBO will publish comparisons of previous projections of federal subsidies for health insurance with actual amounts.

Comparing Current Estimates With Previous Ones

In several of its recurring publications—reports about the budget and economic outlook, federal subsidies for health insurance, and the long-term budget outlook—CBO will continue to explain the differences between the current year's projections and those from the previous year. In its cost estimates, CBO will continue to identify related legislative provisions for which it has provided estimates in the recent past and explain the extent to which the provisions and estimates at hand are similar or different.

Comparing CBO's Estimates With Those of Other Organizations

The agency will continue to publish its regular comparisons of its budget projections and the Administration's and of its economic projections and those of private forecasters and other government agencies. And the agency will include comparisons of estimates in various reports. In addition, when time does not allow for publication, analysts will sometimes be able to discuss such comparisons with Congressional staff.

Estimating the Effects of Policy Alternatives

In 2019 and 2020, CBO will release new interactive products to help users understand the effects of potential changes to federal policies. And reports on other topics will also illustrate the potential effects of various policy proposals.

Characterizing Uncertainty Surrounding Estimates

CBO will update its interactive workbook showing how changes in economic conditions might affect the federal budget. Also, its reports about the 10-year outlook for the budget and the economy, the long-term outlook for the budget, and federal subsidies for health insurance will contain substantial discussions of uncertainty.

Creating Data Visualizations

In 2019 and 2020, CBO will provide information about its budget and economic projections in slide decks and create infographics about actual outlays and revenues. And the agency will continue to look for opportunities to include graphics to enhance the explanations in some cost estimates.

Conducting Outreach

CBO will continue to communicate every day with Congressional staff and others outside the agency to explain its findings and methods, respond to questions, and obtain feedback. The agency's Director will meet regularly with Members of Congress to do the same.

As the agency updates its health insurance model, it will continue to discuss the development with representatives from the Congress, federal agencies, states, insurers, employers, doctors, hospitals, and the general public. The agency will also obtain feedback from researchers such as those on the technical review panel that it established for HISIM.

After each set of baseline projections is published, CBO's staff will meet with Congressional staff to discuss the new projections and answer questions.

CBO will continue to obtain input from its Panel of Economic Advisers and Panel of Health Advisers. It will continue to turn to other experts as well. For example, CBO will convene a recurring meeting of crop insurance and commodity analysts to review the past performance of the crop insurance program and commodity markets and to discuss projections of future spending in those areas. Many reports will benefit from written comments by outside experts on preliminary versions. For some recurring reports produced on compressed timetables, such as the one about CBO's long-term budget projections, the agency will solicit comments on previous publications and selected technical issues to incorporate improvements in future editions.

CBO's staff will give presentations on Capitol Hill—some in collaboration with the Congressional Research Service—on its budget and economic projections and on other topics. Those presentations will allow CBO to explain its work and answer questions. The agency will also give presentations about its findings and about work in progress in a variety of venues to offer explanations and gather feedback. In addition, CBO will use podcasts and blog posts to summarize and highlight various issues.

Responsiveness

One of CBO's highest priorities is responding to the Congress with the information that it needs to legislate. That information takes a variety of forms, ranging from formal cost estimates to background information and technical assistance, and CBO tries to provide it when it is most useful. For example, CBO completes nearly all cost estimates before a floor vote on legislation.

In addition, the agency works to provide technical assistance, reports, and other information to policymakers during earlier stages of the legislative process.

The agency recently put in place a plan to strengthen its responsiveness. For 2019, the Congress increased CBO's budget in part to hire new staff to contribute to that effort. As a result, CBO is increasing staffing in high-demand areas, such as analyses of health care and immigration. In addition, the agency is continuing to hire analysts to expand its use of team approaches, in which work on large and complicated projects is shared.

The budgetary increase that CBO is requesting now would allow it to continue such efforts while also enhancing transparency. In 2020, CBO proposes hiring additional staff who would increase the agency's expertise and modeling capability in several areas. CBO's goal is to have more staff with overlapping skills within and across teams. In some cases, those skills will consist of expertise related to particular programs, such as transportation. In other cases, they will be more technical, such as the ability to design simulation models. Increasing the number of staff with overlapping skills will allow the agency to be more nimble when responding to requests for information.

This testimony summarizes information in CBO's budget request for fiscal year 2020, which was prepared by Mark Smith, with contributions from Leigh Angres, Wendy Edelberg, Joseph E. Evans Jr., Theresa Gullo, Deborah Kilroe, Jeffrey Kling, Cierra Liles, Benjamin Plotinsky, and Stephanie Ruiz.

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