



Testimony

Before the Select Committee on the
Modernization of Congress, U.S. House
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GAO

A Century of Strategic Evolution to Meet Congressional Needs

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



Highlights

Highlights of [GAO-22-900369](#), a testimony before the Select Committee on the Modernization of Congress

GAO's History and Impact

The Budget and Accounting Act of 1921 established GAO as an independent agency to investigate how federal dollars are spent. Early in GAO's history, it conducted reviews of federal payments and focused on conducting financial reviews.

By the 1970s, the size, scope, and complexity of the federal government had expanded, and congressional interest in whether government programs were meeting their objectives was growing. Consequently, GAO shifted its efforts to evaluating the efficiency and effectiveness of federal programs. In 2004, GAO changed its name from the General Accounting Office to the Government Accountability Office to better reflect this expanded role.

Today, GAO's work spans all federal programs and spending—from agriculture to space programs, banking regulation to public health, and cybersecurity to international aid. We also do financial audits of the US government and assessments of its fiscal outlook.

The impact of this work is significant: since 2005, GAO's findings and recommendations have resulted in \$1 trillion in financial benefits and more than 21,000 operational benefits for the U.S. government. Over the past 5 years, GAO's average return on investment is \$165 for every \$1 invested in GAO.

In this testimony, GAO describes the wide range of services it provides to Congress, how these services have evolved to meet congressional needs, and how it is positioned to meet future needs and challenges.

View [GAO-22-900369](#). For more information, contact A. Nicole Clowers at (202) 512-4400 or clowersa@gao.gov.

October 21, 2021

GAO

A Century of Strategic Evolution to Meet Congressional Needs

GAO's Evolution of Expertise and Services

Over the last century, GAO has strategically adapted its services and products—all with an eye towards informing congressional decision-making and improving government operations through nonpartisan and fact-based work.



Evaluating government programs. This now represents the majority of GAO's work, and these evaluations result in hundreds of recommendations each year to improve government operations and billions in financial benefits. Agencies typically implement 75 percent or more of GAO's recommendations.



Conducting real-time analyses. From monitoring the implementation of economic stimulus programs and the Troubled Assets Relief Program during the global financial crisis to providing oversight of the federal response to the COVID-19 pandemic, GAO gathers information in real time, from its source. GAO also provides quick-turnaround, technical support, such as reviewing draft legislation.



Conducting technology assessments. GAO has strengthened its capacity to analyze the latest developments in science and technology, draw attention to the implications of technological change, and make core concepts accessible to policymakers. Recent assessments have examined smartphone contact tracing applications, 5G wireless technology, and artificial intelligence in health care. GAO also recently issued an artificial intelligence accountability framework as a foundational document for evaluation of these systems government wide.



Identifying high-risk issues. GAO's biennial high-risk report has evolved from identifying government operations that are vulnerable to mismanagement to also including those in need of transformation. Since 2005, this work has led to nearly \$575 billion in financial benefits and key operational improvements, such as more sophisticated satellites for weather forecasting in light of extreme weather.



Providing legal decisions and other work. GAO issues decisions on bid protests and appropriations law. Since the mid-1990s, GAO's decisions also address whether an agency action is a rule and vacant executive positions. Since 2005, GAO has maintained, and produces summaries of, agency Antideficiency Act violation reports.

Source: GAO. | [GAO-22-900369](#)

GAO continues to evolve to meet the needs of Congress. From establishing a team to serve as the lead for its science and technology work, to growing its cybersecurity expertise, to developing quick-read products, GAO strives to anticipate or respond to changing congressional needs and emerging issues. For example, one of GAO's newest products, the "Science and Technology Spotlight," explains emerging science and technology with its associated opportunities and challenges, and relevant policy considerations.

GAO's unique mission and structure, diverse and talented workforce, and external network makes it well-positioned to continue to support Congress into the future. The agency's highly-skilled workforce and well-developed professional network that spans the globe enable GAO to anticipate emerging issues, challenges, and opportunities and craft strategic plans for serving the Congress and the country.

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Chair Kilmer, Vice Chair Timmons, and Members of the Committee:

I appreciate the opportunity to discuss how GAO continues to evolve to meet congressional needs. GAO's 100-year history is one of steady change, development, and adaptation. We have strategically adapted our services and products as the federal government's role and congressional needs have changed to reflect an evolving domestic and international environment including changing economic and security landscapes and technological developments. All of this has been done with an eye towards informing congressional decision-making and improving programs and operations across the government.

GAO's robust strategic planning process ensures that we are tackling the most pressing policy matters—both for today and tomorrow.¹ We identify major trends, emerging issues, challenges, risks, and opportunities, all of which help us prioritize our work, obtain the necessary expertise, and allocate our staff resources. We also seek input from Congress and external experts to ensure that we identify issues of greatest national importance. The result of these efforts is a 5-year blueprint that guides our work and provides sufficient flexibility to address unexpected events, such as the COVID-19 pandemic. By involving Congress in our strategic planning process, we aim to develop a shared accountability agenda for federal programs and spending.

What has not changed in a century is GAO's independence and its unwavering commitment to providing the Congress and American public objective, fact-based, and nonpartisan information and professional analysis. Because of this independence and our ability to tackle issues of national importance with objectivity, demand for our work remains high. In fiscal year 2020, GAO received hundreds of requests for work from 90 percent of Congress' standing committees. GAO was asked to testify dozens of times before over 40 separate committees or subcommittees on a range of topics, including COVID-19; disaster preparedness, response, and recovery; and strengthening and sustaining the federal science and technology workforce.

¹See appendix I for an overview our strategic framework.

The impact of GAO's work is significant. Our findings and recommendations have resulted in over \$1 trillion in financial benefits and more than 21,000 program and operational benefits across a range of government programs and operations since 2005. Our average return on investment for the past 5 years is \$165 for every \$1 invested in GAO. The number of annual average program and operational benefits exceeded 1,300 during the same period.

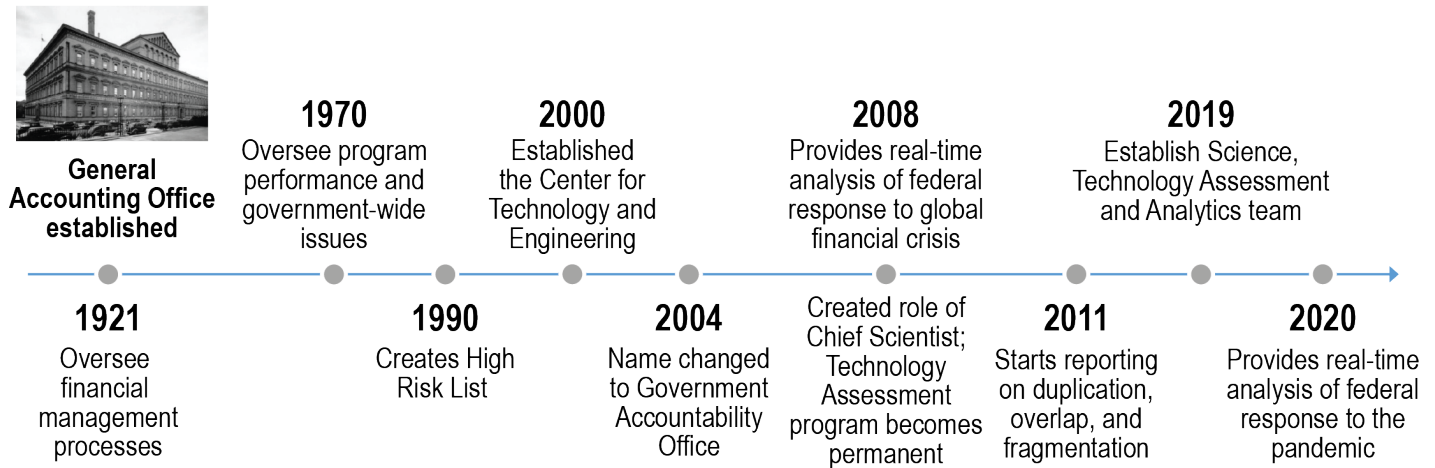
Today I will discuss the wide range of services that we provide to Congress, how these services have continued to evolve to meet the needs of Congress, and how we are well-positioned to meet future needs and challenges.

GAO's Evolution of Expertise and Services

Since its creation in 1921 after World War I, GAO has continuously evolved to meet the needs of Congress and the country (see fig. 1). The Budget and Accounting Act of 1921 required the President to issue an annual federal budget and established GAO as an independent agency in the legislative branch to investigate how federal dollars are spent. For the first 50 years or more, GAO conducted reviews of federal payments and focused on conducting financial reviews. By the 1970s, the size and scope of the federal government had expanded with the Great Society and War on Poverty efforts, and congressional interest in whether these efforts were meeting their objectives was growing. Consequently, GAO began focusing more on reviewing the efficiency and effectiveness of federal programs.² In 2004, GAO changed its name from the General Accounting Office to the Government Accountability Office to better reflect this expanded role.

² Legislative Reorganization Act of 1970, Pub. L. No. 91-510, § 204, 84 Stat. 1140, 1168 (Oct. 26, 1970).

Figure 1: Timeline of Key Events in GAO's Evolution, 1921-2021



Source: GAO. | GAO-22-900369

GAO continues to be a key advisor to Congress on financial matters by auditing the government's financial statements and advising on the government's fiscal health trajectory; however, this work now represents about 10 percent of GAO's total workload. Today, the majority of our work involves reviewing the efficiency and effectiveness of government programs and operations. GAO's work spans all federal programs and spending—from agriculture to space programs, banking regulation to public health, and cybersecurity to international aid. This work helps Congress craft legislation, make decisions about authorizing or reauthorizing programs, make funding decisions, and conduct oversight of the government's full breadth of activities.

To carry out this work, we recruit and retain a highly-skilled and diverse group of staff with subject matter expertise across all domains of federal government. Our staff include analysts with advanced degrees in public policy, economics, public health, data science, information technology, and business as well as scientists, attorneys, financial auditors, actuaries, engineers, and investigators. Organized into 15 mission teams focused on discrete issue areas, we assemble unique, interdisciplinary teams for each project, and these project teams conduct the evaluations, audits, research, and investigations that form the basis of our reports to Congress.

GAO Provides a Wide Range of Services to Support the Congress

GAO performs a range of oversight-, insight-, and foresight-related work to support the Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the benefit of the American people.

Evaluating the efficiency and effectiveness of government programs. The bulk of GAO's work focuses on evaluating federal policies, programs, and agencies' performance. This work spans the scope of government programs, functions, and spending. Figure 2 illustrates the range of topics that we reported on in fiscal years 2020 and 2021.

Figure 2: Select Examples of GAO Reporting in Fiscal Years 2020 and 2021

Addressing Challenges to the Well-being and Financial Security of the American People

- Meeting Growing Demand for Veterans' Long-Term Care
- Addressing Persistent Challenges with FDA Inspections of Foreign Drug Manufacturers
- Reducing the Potential for Fraud in Recovery Homes for Substance Use Disorder
- Using Digital Vaccine Credentials
- Examining Federal Contributions to Development of Remdesivir
- Increasing Vaccine Availability
- Improving Resilience to Climate Change Through Strategic Investment of Federal Resources
- Addressing Weaknesses That Limit Delivery of Federal Tribal Programs
- Developing Needed Aviation-Preparedness Plan for Communicable Disease Outbreaks

Responding to Changing Security Threats and Challenges of Global Interdependence

- Improving Early Implementation of the Nation's Biodefense Strategy
- Enhancing the Transportation Security Administration's Efforts to Improve Airport Security Areas
- Learning from Past Efforts to Acquire Missile Defense Systems
- Improving Disaster Resilience for Federal Assets
- Addressing Challenges to Help DOD Sustain a Growing Fleet of F-35 Aircraft
- Addressing Persistent and Substantial Delays in Ship and Submarine Maintenance
- Improving CBP's Oversight of Funds, Medical Care, and Reporting of Deaths at the Southwest Border

Helping to Transform the Federal Government to Address National Challenges

- Addressing Significant Challenges to Information Security at VA and Other Federal Agencies
- Addressing Challenges for the 2020 Census with Operations Underway
- Addressing Challenges to Better Ensure Equal Employment Opportunity in the DHS Workforce
- Safeguarding Federal Employees Returning to the Workplace During Pandemics
- Addressing the Nation's Fiscal Health
- Clearly Communicating Public Comment Posting Practices for Federal Rulemaking

Source: GAO. | GAO-22-900369

We follow high standards for gathering, documenting, and supporting the information we collect and we use a range of methodological approaches including document reviews, site visits, economic analyses, surveys, data mining and analyses, and interviews. Based on the evidence that we collect and synthesize, we often make recommendations to improve the government program or function under review. For example, in fiscal year 2020, we made 1,459 recommendations. Agencies typically implement 75 percent or more of our recommendations within 4 years.

Agencies have realized significant efficiencies and improvements as the result of implementing our recommendations. For example, our work has

- prompted the Federal Emergency Management Agency to improve the services it provides to disaster survivors with disabilities in identifying their needs and in seeking feedback on services delivery;
- led the Federal Aviation Administration (FAA) to help law enforcement partners understand what information FAA needs on unsafe drone operations to prevent these systems from endangering life and property;
- led several federal agencies to update key policies and procedures to ensure that they are identifying, assessing, and responding to cyber risks; and
- led the Departments of Defense and Veterans Affairs to coordinate on providing updated information on VA's website about where Agent Orange had been tested and stored in the Vietnam War era to help veterans determine their potential exposure and eligibility for disability compensation.

Congress also uses GAO's work extensively to inform key legislative decisions. Recent examples include the following:

- The Consolidated Appropriations Act, 2021 required the Social Security Administration to give Treasury access to its full death data to prevent improper payments for a 3-year period, which is consistent with our past recommendation.
- Consistent with our past work, the National Defense Authorization Act for Fiscal Year 2021 established the National Cyber Director position in the White House and the National Defense Authorization Act for Fiscal Year 2020 directed the Secretary of Defense and the Director of National Intelligence to improve the onboarding methodology for intelligence community personnel.
- The Pallone-Thune Telephone Robocall Abuse Criminal Enforcement and Deterrence Act directed the Federal Communications Commission—when creating rules to help protect subscribers from receiving unwanted calls or text messages—to consider our findings on the topic.

Identifying high-risk issues. In 1990, GAO began reporting on government operations that we identified as “[High Risk](#)”—generally

defined as those that were vulnerable to fraud, waste, abuse, and mismanagement. Since then, this reporting has evolved to include those programs and operations that are in need of transformation. We update the list of high-risk areas every 2 years at the start of each new Congress. In March 2021, we issued our latest update that identified 36 government operations vulnerable to fraud, waste, abuse, and mismanagement or in need of transformation.

The current list of 36 high-risk areas include issues affecting the nation's commerce, economy, and security as well as the daily lives of the American people. For example, it includes critical healthcare programs, including Medicare, Medicaid, and medical product oversight; key Department of Defense operations, such as weapon systems acquisition and business systems modernization; food safety oversight; and the financial viability of the United States Postal Service.

Through our biennial reporting, we draw attention to new or emerging issues that need attention. We also update the existing high-risk areas, sometimes expanding or contracting the areas depending on our latest analyses. For example, in our 1997 report we added information security as a high-risk area. We expanded this high-risk area in 2003 to include protection of critical cyber infrastructure and, in 2015, to include protecting the privacy of personally identifiable information.

Over the past 15 years (fiscal years 2006 through 2020) financial benefits from this work totaled nearly \$575 billion, or an average of about \$38 billion per year. In addition to the financial benefits, the work has led to important programmatic and operational benefits, including more sophisticated weather satellites that improve weather forecasting in light of extreme weather and better sharing of intelligence information.

Reporting on duplication, overlap, fragmentation and opportunities for cost savings. Since 2011, GAO has issued 11 annual reports in response to a statutory provision to report on federal programs, agencies, offices, and initiatives—either within departments or government-wide—that have duplicative goals or activities. Through this reporting, we identified more than 375 areas and 1,200 actions for Congress or executive branch agencies to reduce, eliminate, or better manage [duplication, overlap, and fragmentation](#); achieve cost savings; or enhance revenues, as of May 2021.

Congress and executive branch agencies have partially or fully addressed 873 (about 73 percent) of the actions we identified from 2011 to 2021.

These efforts have resulted in approximately \$515 billion in financial benefits, an increase of \$85 billion from our 2020 annual report. About \$486 billion of these benefits accrued from 2010 through 2020, and \$29 billion are projected to accrue in future years. We estimate tens of billions more dollars could be saved by fully implementing our open actions.

Improving the government’s financial management with audits and investigations. GAO conducts financial and other management audits to determine whether public funds are spent efficiently, effectively, and in accordance with applicable laws. Under the leadership of our Chief Accountant, our cadre of financial auditors conducts the annual audit of the U.S. government’s consolidated financial statements as well as the audits of the financial statements for certain federal agencies and operations, such the Internal Revenue Service, U.S. Securities and Exchange Commission, the Federal Deposit Insurance Corporation, and the schedule of federal debt. We also monitor agencies’ implementation of the Chief Financial Officers (CFO) Act of 1990. Last year we suggested ways the CFO Act could be strengthened to improve and modernize federal financial management.³

GAO also produces annual reports on the nation’s fiscal health. These reports look at the nation’s fiscal condition, including the federal government’s financial statements; the debt; federal, state, and local fiscal projections; and budget trends.⁴

In addition, GAO conducts investigations to assess whether illegal or improper activities are occurring. Our Forensic Audits and Investigative Service (FAIS) team, which is composed of investigators, analysts, and auditors who have experience with forensic auditing and data mining, works with other teams when its special services are required for (1) specific fraud allegations or (2) assistance in evaluating security matters. FAIS also manages [FraudNet](#), our online system created for the public to report to GAO allegations of fraud, waste, abuse, or mismanagement of federal funds.

³See *Federal Financial Management: Substantial Progress Made since the CFO Act of 1990 and Preliminary Observations on Opportunities for Enhancement*, [GAO-20-203T](#) (Washington, D.C.: Oct. 30, 2019).

⁴GAO, *The Nation’s Fiscal Health: After Pandemic Recovery, Focus Needed on Achieving Long-Term Fiscal Sustainability*, [GAO-21-275SP](#) (Washington, D.C.: Mar. 23, 2021).

To advance efforts to combat fraud in government agencies and programs, GAO identified leading practices for managing fraud risk and organized them into the [Fraud Risk Management Framework](#). Issued in 2015, GAO's framework encompasses control activities to prevent, detect, and respond to fraud, with an emphasis on prevention. In June 2016, Congress enacted the Fraud Reduction and Data Analytics Act of 2015, which required the Office of Management and Budget (OMB) to establish guidelines for federal agencies to create controls to identify and assess fraud risks and to design and implement antifraud control activities. The Act further required OMB to incorporate the leading practices from GAO's framework in these guidelines.⁵

Providing real-time analysis of unfolding events. From monitoring the implementation of economic stimulus programs and the Troubled Assets Relief Program during the global financial crisis to providing oversight of the federal response to the COVID-19 pandemic, GAO has a strong record of gathering information in real time, from its source. Most recently, during the ongoing COVID-19 pandemic, we recognized our duty to provide Congress and the American people with timely auditing and reporting on a dynamic situation of global importance. As such, we have issued 117 reports and other products on the pandemic, including seven bimonthly or quarterly reports that cover the entire government-wide response. We also brief congressional staff each month on our latest findings. Through these reports, we have made 209 recommendations for executive action, and agencies have fully or partially implemented over one-third of these recommendations as of September 30, 2021.

Even before the full scope of the pandemic was evident, we shifted some of our resources to address it, working with the Congress to adjust our audit priorities. Throughout the pandemic, GAO has provided congressional committees and individual members with technical assistance on numerous aspects of COVID-19. These included topics such as how well face mask materials filter droplets and aerosols, differences among three prominent COVID-19 infectious disease models, and the effectiveness of certain filtration systems in reducing respiratory disease transmission on airplanes.

Conducting technology assessments. GAO's technology assessments analyze the latest developments in science and technology, draw

⁵Although the Fraud Reduction and Data Analytics Act of 2015 was repealed in March 2020, the Payment Integrity Information Act of 2019 requires these guidelines to remain in effect, subject to modification by OMB as necessary.

attention to implications of technological change, and make core concepts accessible to policymakers. GAO has a long-history of conducting technology assessments for Congress. For example, in recent years our Science, Technology Assessment, and Analytics (STAA) team has issued technology assessments on smartphone contacting tracing applications, 5G wireless technology, and artificial intelligence in health care, among others (see table 1).

Table 1: Examples of Technology Assessments

• Quantum Computing and Communications: Status and Prospects, GAO-22-104422 , Published: Oct. 19, 2021.
• Exposure Notification: Benefits and Challenges of Smartphone Applications to Augment Contact Tracing, GAO-21-104622 , Published: Sep. 09, 2021.
• Forensic Technology: Algorithms Strengthen Forensic Analysis, but Several Factors Can Affect Outcomes, GAO-21-435SP , Published: July 06, 2021.
• Defense Navigation Capabilities: DOD Is Developing Positioning, Navigation, and Timing Technologies to Complement GPS, GAO-21-320SP . Published: May 10, 2021.
• Artificial Intelligence in Health Care: Benefits and Challenges of Technologies to Augment Patient Care, GAO-21-7SP , Published: Nov. 30, 2020.
• 5G Wireless: Capabilities and Challenges for an Evolving Network, GAO-21-26SP , Published: Nov. 24, 2020.
• Covid-19: Data Quality and Considerations for Modeling and Analysis, GAO-20-635SP , Published: July 30, 2020.
• Forensic Technology: Algorithms Used in Federal Law Enforcement, GAO-20-479SP , Published: May 12, 2020.
• Artificial Intelligence in Health Care: Benefits and Challenges of Machine Learning in Drug Development, GAO-20-215SP , Published: Dec. 20, 2019.
• Irrigated Agriculture: Technologies, Practices, and Implications for Water Scarcity, GAO-20-128SP , Published: Nov. 12, 2019.
• Critical Infrastructure Protection: Protecting the Electric Grid from Geomagnetic Disturbances, GAO-19-98 , Published: Dec. 19, 2018.
• Technology Assessment: Artificial Intelligence: Emerging Opportunities, Challenges, and Implications, GAO-18-142SP , Published: Mar. 28, 2018.
• Chemical Innovation: Technologies to Make Processes and Products More Sustainable, GAO-18-307 , Published: Feb. 08, 2018.

Source: GAO. | GAO-21-900369

We have 9 ongoing technology assessments on the following topics: vaccine development; blockchain; AI in medical diagnosis; PFAS; satellite constellation environmental effects; carbon management; forensic analysis of the origins of pandemics; regenerative medicine: bioprinting organs; and forensic attribution of chemical weapons.

Providing legal decisions and other legal work. As part of Congress’s exercise of its constitutional power of the purse, Congress has vested GAO with statutory responsibilities to investigate and oversee the use of public money. For example, GAO issues legal decisions on the Antideficiency Act (ADA) and the Congressional Budget and

Impoundment Control Act of 1974 (ICA) to Congress and executive branch officials in addition to regularly providing informal technical assistance and teaching courses on principles of appropriations law.

Over the past century, Congress has continuously vested GAO with additional responsibilities to investigate and oversee the use of public money. For example, Congress amended the ADA in 2004 to require agencies to send to GAO a copy of each ADA violation report an agency sends the President and Congress. Following the amendment to the ADA, GAO established and maintains a central repository of these reports and we issue a compilation of our summaries of these reports on an annual basis. Additionally, under the ICA, Congress provided GAO with the responsibility to review any special message submitted by the President pursuant to the Act, and to report to Congress when GAO determines the President has improperly withheld funds. In fiscal year 2020, GAO issued 21 appropriations law products, including legal decisions and congressional testimonies.

Based on our experiences in carrying out these responsibilities and with an eye toward how our role could evolve, GAO has shared ideas for legislative proposals to protect Congress's power of the purse, such as correcting agency underreporting of ADA violations, including when GAO finds a violation; reporting of obligations incurred during a lapse in appropriations; and requiring the reporting of expired, canceled or unobligated balances. These legislative proposals would strengthen GAO's existing role in support of Congress's constitutional prerogatives.

Congress also gave GAO statutory responsibility in the Competition in Contracting Act of 1984 (CICA) to provide an objective and impartial forum for the resolution of bid protests—a challenge to the terms of a solicitation or the award of a federal contract. Congress, courts, agencies, and the public rely on GAO's body of bid protest decisions. Prior to enactment of CICA, GAO provided this forum informally for more than 50 years. In 2013 and 2016, Congress vested GAO with permanent authority to hear protests of certain task and delivery orders. GAO adjudicated over 2,100 bid protests in fiscal year 2020 and issued more than 500 decisions on the merits.

GAO's role in assisting Congress has grown to include supporting congressional oversight of agency rulemaking under the Congressional Review Act (CRA), enacted in 1996, and congressional oversight of the temporary filling of certain vacant executive positions under the Federal Vacancies Reform Act of 1998 (Vacancies Reform Act). Under the CRA,

GAO reports on the procedural steps taken by agencies in promulgating major rules. Under the Vacancies Reform Act, GAO issues reports where an acting official is serving longer than permitted by law.

In response to congressional interest, GAO's role has evolved to include issuance of legal decisions on particular agency actions under the CRA and specific vacancies under the Vacancies Reform Act. GAO's role under the Vacancies Reform Act has also grown to include proactively working with agency heads to remind them of their obligations under the Vacancies Reform Act. In fiscal year 2020, GAO issued 153 major rule reports, five decisions under the CRA, two Vacancies Reform Act decisions, and three Vacancies Reform Act violation letters.

Providing technical assistance and access to experts. In addition to our evaluative and legal work, GAO also provides technical assistance to congressional committees and Members. This informal, limited assistance on discrete topics is one method we use to respond more quickly to Congress's information needs. Technical assistance can include reviewing draft legislation, analyzing publically available data, providing congressional hearing support, or briefing on the workings of a particular federal program. Our experts are also available to brief, answer questions, and share knowledge on policy issues and technical subjects that span the federal government. To facilitate access to our subject matter experts for technical and other support, we added a [page](#) to our website that lists experts by topic, and we have arranged brownbags for congressional staff on certain topical issues. In addition, at the request of congressional committees, GAO can detail a very limited number of staff to committees for up to 1 year.

GAO Continues to Evolve to Meet the Needs of Congress

From establishing a team to serve as our focal point for our science and technology work to growing our cybersecurity expertise, GAO has anticipated and responded to the changing needs of Congress and emerging policy issues. In addition, we are adapting the products we use to deliver our information and analyses to Congress in today's digital environment.

GAO Continues to Bolster Agency Components to Help Congress Address Science and Technology Issues

GAO has reviewed science and technology issues for Congress since the 1990s. This body of work has grown over the decades. For example:

- In 1997, we first designated cybersecurity as a government-wide high-risk area, and subsequently expanded it in 2003 and 2015 to include the protection of critical infrastructure and privacy of personally identifiable information, respectively.

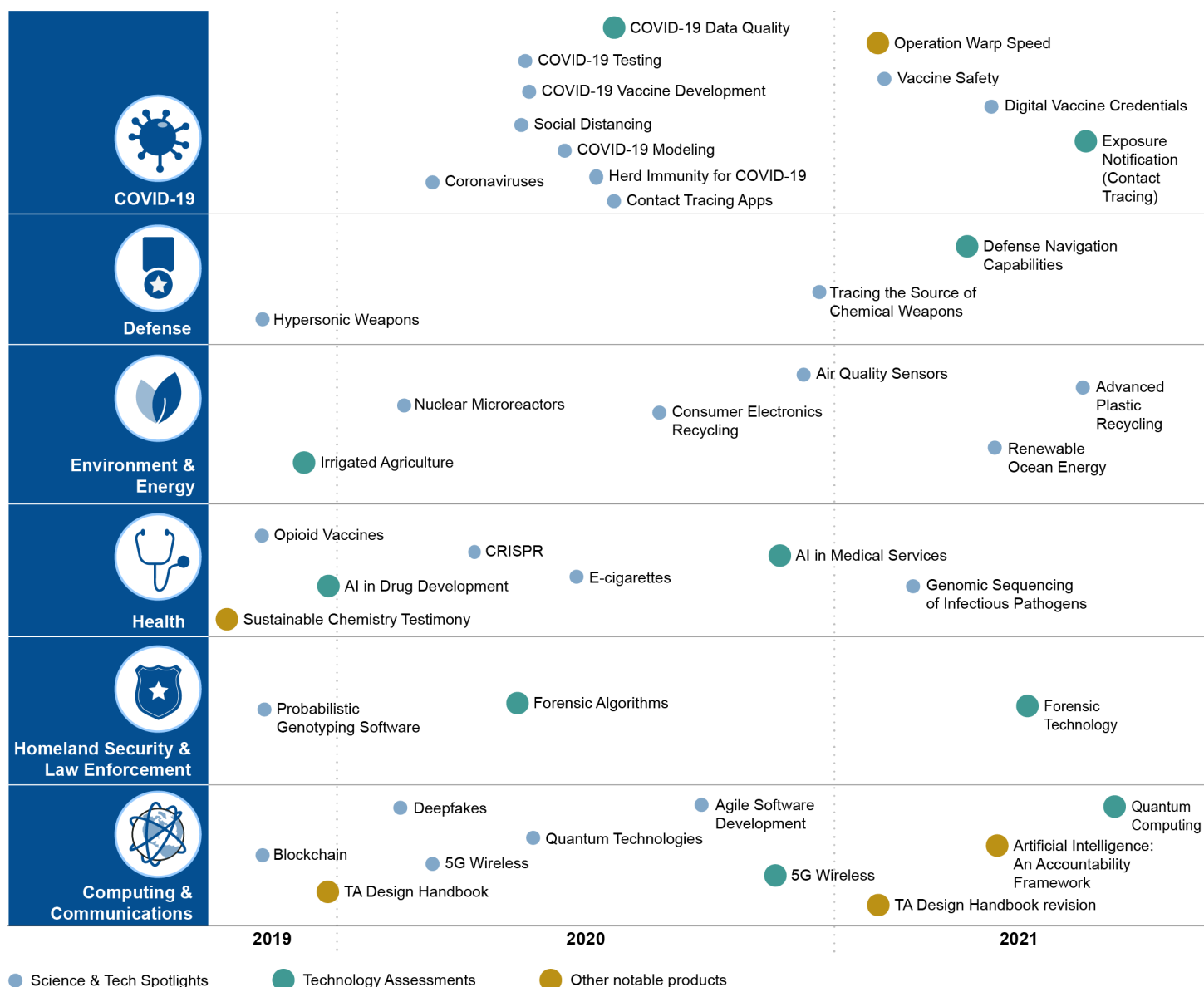
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- In 2001, we initiated a now 2-decades long contractual relationship with the National Academies to inform GAO's growing science and technology work.
 - In 2002, at the request of Congress, we began conducting technology assessments to provide more in-depth analysis of technical and scientific issues in order to support congressional decision-making.
 - In 2008, we created the role of Chief Scientist, and established a permanent technology assessment program.
 - In 2019 and 2020, we issued two joint publications with the National Academy of Medicine on artificial intelligence (AI) on healthcare—one on AI in drug development and the other on AI for medical services.
 - In 2021, we issued an AI Accountability Framework ([AI framework](#)) that identifies key accountability practices—centered around the principles of governance, data, performance, and monitoring—to help federal agencies and others use artificial intelligence responsibly.

In January 2019, GAO created [STAA](#) to build on our decades-long track record of providing Congress with science and technology analysis. As the focal point for this particular line of work, STAA brings together its specialists and analysts from across the agency to provide members of Congress and their staff with an array of foresight, insight, and oversight services. Our expertise, research, and analyses help address a number of specific congressional needs, including the following:

- in-depth evaluation and oversight of federal science and technology programs;
- foresight on new and emerging technologies;
- evaluation of the effects and policy implications of science, technology, and innovation on society;
- innovations in evidence-based policymaking through data analytics;
- exploration of emerging technologies that could be utilized to support specific legislative branch functions or tasks remotely;
- development of policy options that may enhance the benefits and mitigate the challenges of technologies; and
- proactive and on-demand technical assistance on science, technology, and innovation issues.

Examples of STAA's recent science and technology work includes reports on federal agencies' use of facial recognition technology and federal contributions to the development of Remdesivir. (See fig. 3.) STAA has also produced testimonies on the federal STEM workforce and the security of federal investments in research and development.

Figure 3: Science and Tech Spotlights, Technology Assessments and Other Notable Products



Source: GAO. | GAO-22-900369

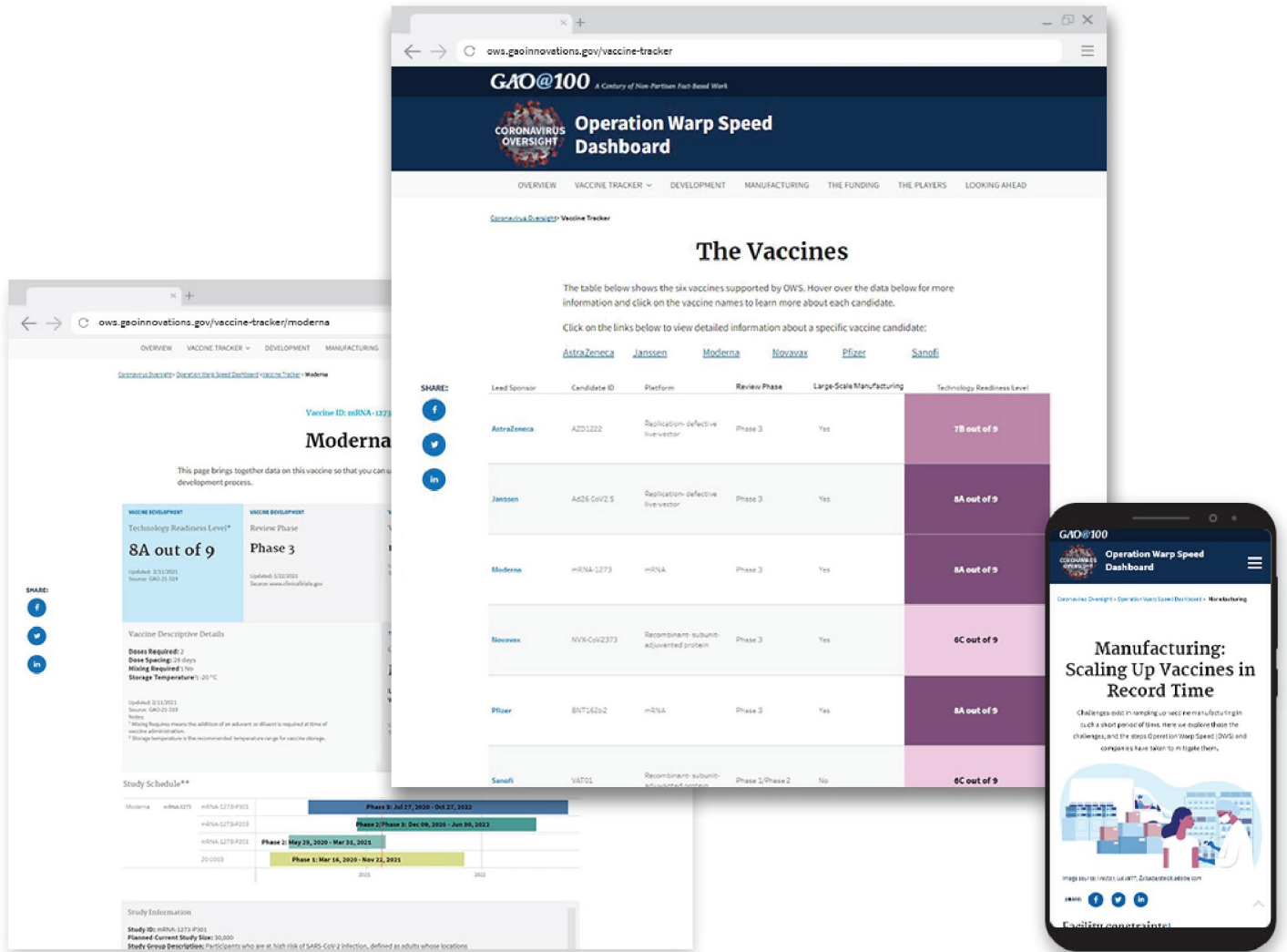
STAA also produces best practice guides. These guides—authoritative documents for managing and evaluating programs—are developed by a diverse community of experts and lay out proven and effective approaches and decision-making tools for federal managers. Published guides include best practices on lifecycle cost estimating, scheduling, technology readiness assessment, and agile methods. Best practice guides on cloud information technology security, acquisition, and human capital are also being considered.

STAA is the home of our [Innovation Lab](#), which was established to enhance GAO’s ability to tackle accountability challenges through data science and emerging technologies. Made up of data scientists and technologists, the Innovation Lab works with GAO mission teams and external stakeholders to examine the latest technological advances in oversight.

During the pandemic, the Lab provided Congress with the tools to make complex information easily accessible and timely. As part of our work on vaccine development and deployment, the Lab created the first-of-its-kind digital dashboard to provide up-to-date details on vaccine technology development, manufacturing, and rollout.⁶ (See fig. 4.)

⁶See <https://ows.gaoinnovations.gov/> for GAO’s dashboard providing key information on Operation Warp Speed COVID-19 vaccine development and manufacturing.

Figure 4: Science, Technology Assessment, and Analytics Dashboard Provides Key Information on Operation Warp Speed Supported COVID-19 Vaccines



Source: GAO. | GAO-22-900369

The Lab is also doing work that will address fraud and improper payments. For example, the Lab’s specialists are working to enhance GAO’s ability to conduct network analyses to detect fraud while also developing tools to help other federal agencies adopt GAO’s fraud risk management framework. In addition, the Lab is leading GAO’s work with principal agencies of the Joint Financial Management Improvement

Program to explore how identity verifications across public sector benefit programs can be scaled up to curb improper payments.⁷ Improper payments—payments that should not have been made or were made in the wrong amount—continue to grow across the government. In fiscal year 2020, agencies reported total improper payment estimates of about \$206 billion, up from \$175 billion in fiscal year 2019. Since fiscal year 2003, cumulative improper payment estimates have totaled almost \$1.7 trillion.

To accomplish this important work, GAO increased the size of the STAA workforce in accordance with the plan provided to Congress in April 2019. As of September 27, 2021, STAA has 120 members, up from 67 members at the beginning of fiscal year 2020. Our fiscal year 2022 budget request reflects plans to continue to grow STAA to meet congressional needs.

GAO Continues to Build Cybersecurity Expertise

GAO's Information Technology and Cybersecurity (ITC) team provides critical analysis of today's cybersecurity challenges. High-profile and widespread cyberattacks on federal agencies and national infrastructure have highlighted the urgent need to address these long-standing challenges. We have a decades-long track record of informing congressional decision-making on cybersecurity issues. For example, our [cybersecurity work](#) has contributed to major legislation on information security, including the Federal Information Security Management Act of 2002 (FISMA), the subsequent amendment to FISMA in 2014, and the Federal Cybersecurity Enhancement Act of 2015.

Recognizing that these attacks and threats can have serious or even catastrophic effects on federal systems, the nation's critical infrastructure, and the privacy and safety of the general public, GAO continues to expand our expertise and ability to assess these threats. For example, since 2018 we hired 48 specialists for the ITC team. We plan to continue to recruit talent with specialized cybersecurity knowledge, skills, and expertise to augment our ITC team's capabilities, including this team's Center for Enhanced Cybersecurity. This center is responsible for performing technical cybersecurity reviews, including vulnerability assessments and system configuration reviews of complex networks.

⁷The principal agencies are GAO, the Office of Management and Budget, Treasury, and the Office of Personnel Management.

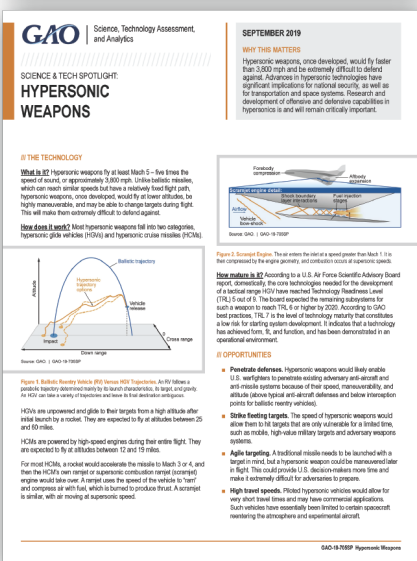
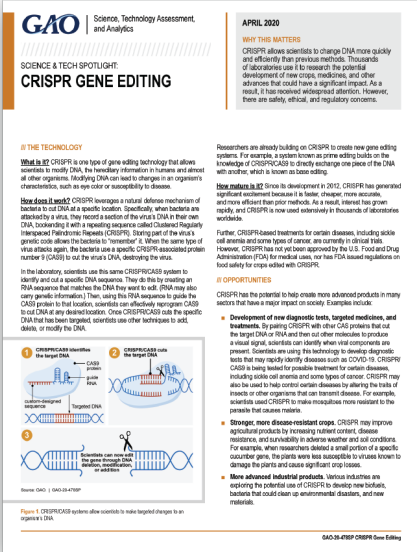
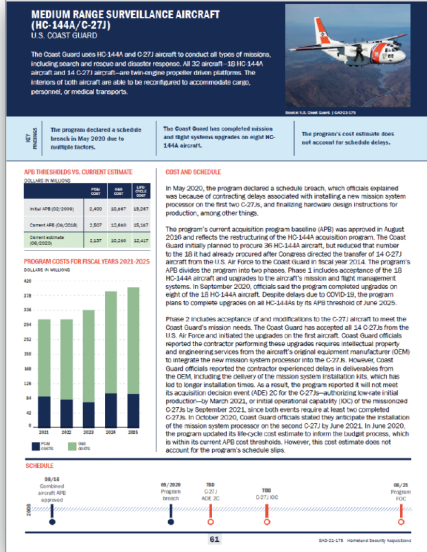
Using this cadre of specialists, we will continue our focus on four areas that we have identified as high risk: (1) establishing a comprehensive cybersecurity strategy and performing effective oversight, (2) ensuring the security of federal information systems, (3) protecting cyber-critical infrastructure, and (4) protecting privacy and sensitive data.

GAO Continues to Adapt Its Products to Meet Congress's Informational Needs

Product types. GAO's product line reflects varied presentations of information Congress has requested. GAO may be best known for its written products that detail the findings of GAO's evaluations and audits. But GAO also produces other types of written products to meet congressional needs and interests.

Some of these synthesize and package information relevant to current or emerging issues, generally in no more than two pages. For example, STAA produces "Science and Technology Spotlights" that explain emerging science and technology, including the opportunities and challenges, and relevant policy considerations associated with them. Similarly, we publish 1- or 2-page quick-reads on various topics, such as health care, defense-related acquisition, and energy. (See fig. 5.) We are currently developing quick-reads for other bodies of work to make policy-relevant information quickly available and easily understandable.

Figure 5: Examples of GAO's Science and Technology Spotlights and Quick-Read Products



Source: GAO, | GAO-22-900369

Other products which Congress track GAO recommendations and understand the President's budget. For example, Priority Recommendation Letters are sent to the heads of key departments and agencies, urging them to implement GAO recommendations that may

significantly improve government operations. We also share these letters with agencies' congressional oversight committees and make them publically available on our website. Another example is our Budget Justification Reviews, which provide appropriators timely, objective analyses of items in the President's proposed federal budget.

Finally, GAO has also used blog posts to share timely and compelling information. Our [WatchBlog](#) has been offering GAO's work in a medium-length, plain-language post format since 2014. In a recent example, shortly after the Colonial Pipeline Company announced that it was the victim of a cyberattack, GAO issued a blog post with an infographic that illustrated the U.S. pipeline systems' basic components and vulnerabilities. Our blog also reiterated recommendations GAO had made to address these vulnerabilities. Furthermore, on June 3, 2021, GAO provided a virtual brownbag on the topic that was attended by more than 60 congressional staff. GAO will continue to find innovative ways to meet Congressional needs, both through in-depth reports and by highlighting salient findings from across multiple, previously issued reports.

User-friendly formats. GAO recognizes that Congressional staff and users on the go may need to quickly and easily navigate information, so we have undertaken a number of digital initiatives since 2010. GAO currently shares information about reports, events, recruiting, and more on Twitter, Facebook, LinkedIn, and Instagram. As we established our presence on social media, we also worked to create more topical and user-friendly digital products to help expand GAO's reach. Specifically, we have a long-running podcast series that is hosted and produced in-house by our Office of Public Affairs. We also create infographics, interactive graphics, and videos to supplement reports, making data more accessible and our science, policy, and economics information easier to absorb.

Building on the success of our Fast Facts initiative—brief online summaries that help orient our readers to each of our reports—we are also working on other initiatives to improve the readability and accessibility of GAO's reports (see fig. 6). For example, we are currently piloting a shorter version of our Highlights page to give readers a better experience at the level of information between the Fast Facts summary and the full audit report.

Figure 6: Example of a GAO Fast Facts

Fast Facts

The National Guard counterdrug program has supported domestic law enforcement counterdrug activities for more than 30 years.

In our review of the program, we found:

- DOD's strategy is out of date and doesn't reflect current drug threats.
- In 2014, the National Guard rescinded its guidance for states on how to operate and administer the program—and hasn't replaced it yet.
- DOD has funded state counterdrug activities without first approving their plans.

We **recommended** ways for DOD and the National Guard to address these issues.

These National Guard counterdrug program helicopters helped law enforcement seize more than 20,000 marijuana plants worth more than \$23 million.



Source: U.S. Army National Guard photo by Staff Sgt. Scott Tynes. | GAO-19-27

Source: GAO. | GAO-22-900369

In fiscal year 2021, GAO deployed New Blue, our platform to edit, fact check, and distribute our reports. New Blue will streamline our publishing

processes to enable a web-based format that is accessible on mobile devices. GAO has used this platform for all our [COVID-19](#) comprehensive reports, [High Risk](#) Series reports, and [duplication, overlap, and fragmentation](#) reports.

GAO Is Poised To Help Congress Tackle Future Challenges and Issues

GAO's unique mission and structure, diverse and talented workforce, and external network make it well-positioned to continue to support Congress into the future. We recognize that our evolution is never done.

Mission and structure. GAO's unique mission—a mandate to monitor programs across the entire federal government—is supported by our institutional structure. This structure includes how the Comptroller General is appointed and the tenure of the position. A 10-member bicameral, bipartisan commission of congressional leaders recommends individuals to the President. The President then appoints the Comptroller General to a 15-year term with consent of the Senate. The longevity of the term helps ensure that the agency's work is not unduly influenced by outside interests, has consistent leadership, and maintains ongoing institutional knowledge.

Diverse and talented workforce. GAO has a highly diverse and professional multidisciplinary workforce. We maintain a workforce with training in many disciplines, including accounting, law, engineering, public and business administration, economics, and the social, physical, and data sciences. Our staff are highly-educated, with about 70 percent of our analyst community holding a Master's degree or higher, and many have substantial prior work experience. In addition, our staff is diverse. For example, in fiscal year 2020, women and people of color made up about 58 percent and 35 percent of the GAO workforce, respectively. We believe our diversity strengthens our ability to carry out our mission. In addition, only 14 percent of the workforce is eligible to retire, which will help provide the agency consistent leadership for years to come and the necessary institutional knowledge critical to doing our work.

GAO has been recognized by the Partnership for Public Service as one of the best places to work in the federal government, consistently ranking among the top five mid-size federal agencies for many years. In 2021, the Partnership ranked GAO first among mid-size agencies. The work environment that this ranking reflects, along with our important mission and interesting work, helps us attract and retain our talented staff. For instance, over the past 5 years, our retention rate has averaged about 94 percent—which fortifies our deep institutional knowledge.

External network. GAO's well-developed professional network spans the globe. Our network includes officials and experts—both domestically and internationally—from government, nonprofit, and private sector entities, academic institutions, and associations. We also maintain a contract with the National Academies that we can use to help us identify, connect, or meet with subject matter experts for our audit work and other technically-involved and strategic topics.

We also use a number of advisory boards that provide advice on carrying out our mission. The boards include the following:

- *Comptroller General's Advisory Board:* provides input to help update our strategic goals and address other issues of strategic importance. Advisory Board members include former senior government leaders and others with experience in the public and private sectors, non-governmental organizations, and academia.
- *Domestic Working Group:* brings together federal inspectors general and state and local audit officials on an informal basis to discuss topics of mutual interest, address common concerns, and promote collaborative efforts.
- *Educators Advisory Panel:* advises the Comptroller General on existing and emergent public policy issues as well as strategies, best practices, operations, and emerging human capital issues and trends related to recruitment, hiring, development, and retention of a diverse, talented, dedicated, and results-oriented workforce. The panel is comprised of deans and highly qualified professors from key public and private academic institutions.
- *Polaris Council:* brings together exceptional science, technology, and policy leaders and experts that advise the Chief Scientist on emerging science and technology issues facing the Congress.

In addition, we have strong working relationships with the accountability community. At the domestic level, this includes federal inspectors general, state and local audit organizations, private sector firms, and associations, such as the [National Association of State Auditors, Controllers, and Treasurers](#) and [Association of Local Government Auditors](#). We also collaborate with other auditing institutions through our leadership and participation in the International Organization of Supreme Audit Institutions—the umbrella organization for the external government audit community.

Finally, we launched the Center for Strategic Foresight in 2018 to help GAO fulfill its mission to support the Congress in making the federal government more efficient and effective. The Center has eight non-resident fellows who are experts in foresight and futures thinking from around the world. Collectively, the fellows' backgrounds span government, the private sector, non-governmental organizations, academia, and international organizations. The Center for Strategic Foresight is a unique entity in the United States government in that it is located in the legislative branch and reflects the full scope of GAO's oversight mission across the entire federal enterprise.

Regular feedback. To ensure that we are meeting congressional needs, we regularly seek feedback from Members and congressional staff. The Comptroller General meets with the Chairs and Ranking Members of congressional committees to obtain their views on our work, including their priorities, and to discuss opportunities and challenges facing our nation.

In addition, we survey congressional staff when we issue products to assess their satisfaction with the quality, timeliness, and overall experience. We have periodically collected feedback through a project called "Voice of the Client" (VOC). Most recently, for the 2021 VOC, we queried congressional staff about the types of information they needed to do their work; sources they used to obtain that information; and where GAO fits in to that equation. We also asked staff about which of our services they used; how they used them; and ways in which we could improve on our services and products to meet their needs.

Like past iterations of VOC, we synthesized the information we collected in the interviews to identify opportunities for improvement. For example, during the 2014 VOC, several clients said they wanted access to information about start times for pending requests, their committee's portfolio of pending, ongoing, and completed work, and the implementation status of recommendations. In response, GAO redesigned its website, [Watchdog](#), accessible only by congressional staff, where they could search for ongoing work by topic and learn about those engagements' objectives, scope, and methodology and access other information about GAO products and services. Watchdog also links to GAO's publicly accessible recommendations database. This [database](#) allows anyone to search open recommendations by agency, or subject term.

Chair Kilmer, Vice Chair Timmons, and Members of the Committee, this concludes my prepared statement. I would be pleased to respond to any questions.

Contacts and Acknowledgments

If you or your staff have any questions about this testimony, please contact A. Nicole Clowers, Managing Director, Congressional Relations at (202) 512-4400 or clowersa@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. GAO staff who made contributions to this statement include Gregory Borecki, Patrick Dibattista, Kristine Hassinger, Jeffery Haywood, Anika McMillon, Sara Pelton, Jessica Smith and Cathleen Hamann Whitmore.

Appendix I: GAO's Strategic Framework

Figure 7: GAO's Strategic Framework



Source: GAO. | GAO-22-900369

Appendix I: GAO's Strategic Framework

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