



June 2021

SMALL BUSINESS INNOVATION RESEARCH

Agencies Need to Fully Implement Requirements for Managing Fraud, Waste, and Abuse



A Century of Non-Partisan Fact-Based Work

GAO@100 Highlights

Highlights of [GAO-21-413](#), a report to congressional committees

Why GAO Did This Study

Federal agencies awarded small businesses almost \$4 billion in SBIR and STTR awards in fiscal year 2019 to perform research and development and commercialize technologies. SBA oversees the programs, which are carried out by officials in 11 participating agencies.

SBA established 10 minimum requirements for participating agencies to prevent fraud, waste, and abuse in the programs. The Small Business Act, as amended, also requires efforts by the 11 agencies' OIGs to mitigate the programs' fraud risks. The Act also includes a provision that GAO study fraud, waste, and abuse in the programs and report to Congress every 4 years.

This GAO report, its third, examines (1) the extent to which the 11 agencies have implemented SBA's minimum requirements and (2) the efforts OIGs have taken to mitigate fraud, waste, and abuse in SBIR and STTR programs.

GAO reviewed agency SBIR/STTR documents and interviewed officials from SBA, the 11 participating agencies, and from the agencies' OIGs and military investigative offices.

What GAO Recommends

GAO is making 21 recommendations that 10 agencies take steps to fully implement all 10 of the minimum requirements established by SBA. Eight of the agencies concurred with the recommendations. DOD concurred with four recommendations, partially concurred with one, and did not concur with two. USDA did not state whether it concurred. GAO continues to believe the recommendations are warranted.

View [GAO-21-413](#). For more information, contact Candice N. Wright at (202) 512-6888 or wrightc@gao.gov

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Agencies Need to Fully Implement Requirements for Managing Fraud, Waste, and Abuse

What GAO Found

The 11 agencies participating in the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs largely implemented the Small Business Administration's (SBA) 10 minimum requirements for preventing fraud, waste, and abuse in the programs. Most agencies fully implemented at least eight of the 10 requirements and partially implemented the others; one agency, NASA, fully implemented all 10. The agencies used differing approaches to implement the requirements. For example, prior to making awards, agencies used different approaches to verify applicants' or awardees' eligibility to receive federal funds, including SBIR and STTR awards, and to avoid funding duplicative or essentially equivalent work.

Multiple agencies did not fully implement certain requirements, such as ones to collect eligibility certifications and to have a process for tracking referrals to Offices of Inspector General (OIG). Agency officials gave various reasons for partially implementing requirements, such as their belief that they had met a requirement's intent through other actions. However, because agencies did not fully implement all 10 requirements, they may face difficulties. For example, by not collecting program eligibility certifications, agencies may find it complicated to hold individuals and businesses accountable if they misrepresent their eligibility for SBIR and STTR awards. Further, agencies could miss opportunities to implement leading practices GAO identified in 2015 for managing fraud risks in federal programs, which align with some of SBA's requirements.

OIGs seek to mitigate risks of fraud, waste, and abuse in the SBIR and STTR programs by establishing, sharing, and using fraud detection indicators and by conducting investigations. As required under the Small Business Act, as amended, OIGs or military investigative offices at the 11 participating agencies established indicators specifically for use by the SBIR and STTR programs (see figure). OIGs or military investigative offices of all the participating agencies initiate investigations in response to referrals. Most also initiate investigations in response to information shared by investigative partners or signs of suspicious activity. Officials at most OIGs stated that they also use the indicators to train program officials and awardees and share information with other OIGs on cases undergoing investigation or prosecution for fraud.

Figure: Examples of Indicators Agencies Use to Identify Potential Fraud in SBIR and STTR Programs



Source: GAO analysis of agency data. | GAO-21-413

Note: The presence of an indicator for a particular applicant or awardee does not necessarily mean fraud is occurring, though it may signal the need for an inquiry.

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Abbreviations

AFOSI	Air Force Office of Special Investigations
ARPA-E	Advanced Research Projects Agency-Energy
DHS	Department of Homeland Security
DOD	Department of Defense
DOE	Department of Energy
DOT	Department of Transportation
EPA	Environmental Protection Agency
HHS	Department of Health and Human Services
NASA	National Aeronautics and Space Administration
NCIS	Naval Criminal Investigative Service
NIH	National Institutes of Health
NIST	National Institute of Standards and Technology
NOAA	National Oceanic and Atmospheric Administration
NSF	National Science Foundation
OIG	Office of Inspector General
R&D	research and development
SAM	System for Award Management
SBA	Small Business Administration
SBIR	Small Business Innovation Research
SDO	suspension and debarment official
STTR	Small Business Technology Transfer
USDA	Department of Agriculture

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June 30, 2021

Congressional Committees

Since 1982, federal agencies have made awards to small businesses for research and development (R&D) and technology commercialization through the Small Business Innovation Research (SBIR) program and, since 1992, through the Small Business Technology Transfer (STTR) program. The SBIR and STTR programs play a key role in U.S. innovation through these federal awards to small businesses. For example, a company that currently markets a line of robotic vacuums for the home received nearly \$10.3 million in funding from the Department of Defense's SBIR program between 2001 and 2009 to develop robots for the battlefield. According to documentation from the Small Business Administration (SBA), which oversees the SBIR and STTR programs, participating agencies typically invest a combined total of at least \$3.2 billion in SBIR awards and \$450 million in STTR awards for a total of over 5,000 new awards each year.

In fiscal year 2020, 11 federal agencies made awards to small businesses through SBIR: the Departments of Agriculture (USDA), Commerce, Defense (DOD), Education, Energy (DOE), Health and Human Services (HHS), Homeland Security (DHS), and Transportation (DOT); the Environmental Protection Agency (EPA); the National Aeronautics and Space Administration (NASA); and the National Science Foundation (NSF). Five of those agencies also made awards through STTR: DOD, DOE, HHS, NASA, and NSF.

The SBIR and STTR programs' resources can be compromised by fraud, waste, and abuse. From 2017 to 2020, the Department of Justice reported 16 successful resolutions to cases related to fraud, waste, and abuse in the SBIR and STTR programs as a result of investigations conducted by several agencies' Offices of Inspector General (OIG) or a DOD military department's investigative office.

Responsibility for addressing fraud, waste, and abuse in the SBIR and STTR programs is shared by participating agencies, agency OIGs, and—in DOD—investigative offices within the three military departments of the

Army, Navy, and Air Force.¹ Each participating agency is to manage its programs in accordance with law, regulations, and the policy directives issued by SBA, which include 10 minimum requirements for preventing fraud, waste, and abuse. The Small Business Act, as amended, also includes several requirements for participating agencies' OIGs to address fraud, waste, and abuse in the SBIR and STTR programs.

The Small Business Act, as amended, includes a provision for GAO to conduct a review every 4 years of what the agencies and agency OIGs are doing to prevent, identify, respond to, and reduce fraud, waste, and abuse in the SBIR and STTR programs.² Our prior reports were issued in November 2012 and April 2017.³ This third report addresses (1) the extent to which the 11 participating agencies have implemented SBA's 10 minimum requirements for preventing fraud, waste, and abuse in their SBIR and STTR programs and (2) efforts OIGs have made to mitigate risks of fraud, waste, and abuse in the programs.

The scope of our review included the 11 agencies that participated in the SBIR program (or both the SBIR and STTR programs) in fiscal years 2017 through 2020, since we issued our last report. For three participating agencies that have multiple agency components issuing SBIR or STTR awards—DOD, HHS, and DHS—we selected components that had made the majority of their agency's awards in fiscal years 2017 through 2019, the latest years for which complete awards data were available at the time of our selection. For the other two participating

¹Responsibility for investigating fraud, waste, and abuse in SBIR and STTR programs is typically found within the participating agencies' OIGs. However, in the three DOD military departments of the Army, Navy, and Air Force, investigative responsibilities are instead located in the Army Criminal Investigation Command, Naval Criminal Investigative Service, and Air Force Office of Special Investigations. We refer to them collectively as the OIGs and military investigative offices.

²SBIR/STTR Reauthorization Act of 2011, Pub. L. No. 112-81, div. E, § 5143, 125 Stat. 1822, 1856 (codified as amended at 15 U.S.C. § 638b(b)) provides that GAO is to submit a report every 4 years, by December 31, to the Committee on Small Business and Entrepreneurship of the Senate, the Committee on Small Business and the Committee on Science, Space, and Technology of the House of Representatives, and the head of each federal agency that participates in the SBIR and STTR programs. In accordance with this Act, GAO submitted its preliminary observations to the committees through an interim update on December 18, 2020.

³GAO, *Small Business Research Programs: Agencies Are Implementing New Fraud, Waste, and Abuse Requirements*, [GAO-13-70R](#) (Washington, D.C.: Nov. 15, 2012) and *Small Business Research Programs: Additional Actions Needed to Implement Fraud, Waste, and Abuse Prevention Requirements*, [GAO-17-337](#) (Washington, D.C.: Apr. 25, 2017).

agencies with multiple components—Commerce and DOE—we included all of the participating components, and their respective SBIR and STTR program offices, in the scope of our review. See table 1 for the list of agencies and their components included in our review.

Table 1: Agencies and Selected Agency Components in GAO’s Fiscal Year 2017-2020 Review of Fraud, Waste, and Abuse in Small Business Programs

Federal agency	Selected agency components reviewed
Department of Agriculture	—
Department of Commerce	National Institute of Standards and Technology National Oceanic and Atmospheric Administration
Department of Defense	Department of the Army Department of the Navy Department of the Air Force
Department of Energy	Advanced Research Projects Agency-Energy Office of Science
Department of Health and Human Services	National Institutes of Health
Department of Homeland Security	Science and Technology Directorate
Department of Education	—
Department of Transportation	—
Environmental Protection Agency	—
National Aeronautics and Space Administration	—
National Science Foundation	—

Legend: — = the agency does not have multiple components that funded or issued Small Business Innovation Research (SBIR) or Small Business Technology Transfer Research (STTR) awards in fiscal years 2017 through 2019, the latest years for which complete awards data were available in summer 2020, when we selected agency components for this review.

Source: GAO analysis of federal agency data. | GAO-21-413

To determine the extent to which the 11 participating agencies have implemented SBA’s 10 minimum requirements, we reviewed policies, procedures, websites, and other documentation from the 11 agencies and their GAO-selected agency components. We also interviewed or obtained written responses from program officials at SBA and the 11 agencies’ and selected agency components’ program offices about the agencies’ implementation of the minimum requirements for preventing fraud, waste, and abuse in the programs. For a minimum requirement that the programs collaborate with OIGs, we obtained documentation from and contacted OIG officials to corroborate information from agencies’ program offices, when possible. Using the information provided, we determined whether agencies had fully implemented, partially implemented, or not implemented each of the 10 minimum requirements. We based these

determinations on the requirements themselves and on any supplemental guidance SBA had provided to agencies on the requirements, such as alternative ways of implementing them. For the three agencies with multiple selected components—Commerce, DOD, and DOE—we first evaluated whether each component fully, partially, or did not implement a requirement. If all of the components of an agency fully implemented the requirement, we considered the agency to have fully implemented it. If none of the agency components did so, we considered the agency not to have implemented the requirement. In all other cases, we considered the agency to have partially implemented the requirement. See appendix I for more information on how we evaluated implementation of the 10 minimum requirements. In this report, “most” agencies refers to nine or 10 participating agencies; “many” refers to six, seven, or eight; “some” to four or five; and “several” to two or three.

To identify OIGs’ efforts, we obtained documentation and interviewed or received written responses from OIGs or military investigative offices at the 11 agencies about their investigations and reports regarding SBIR and STTR programs conducted or issued since our last update in 2017.⁴ In particular, we reviewed the annual reports on the SBIR and STTR programs that agency OIGs are required to submit to Congress and that contain summary information on OIG investigations related to fraud, waste, and abuse in their agencies’ programs. We also obtained information about the OIG actions required under the Small Business Act, as amended—establishing fraud indicators for SBIR and STTR programs; coordinating information sharing with other agencies; and providing training on fraud, waste, and abuse prevention—that were most closely related to SBA’s minimum requirement that programs collaborate with OIGs. We obtained information from 14 OIGs or military investigative offices—the OIGs for DOD, Navy, and Army; the Air Force Office of Special Investigations; and the OIGs at the other 10 participating agencies.⁵ For additional context, we interviewed the National Science Foundation OIG in its capacity as co-chair of the SBIR Investigations Working Group about how the group shares information and coordinates

⁴Investigations can involve allegations of criminal, civil, or administrative misconduct, and can result in criminal prosecutions, civil and administrative proceedings, fines, administrative sanctions, and personnel actions.

⁵Navy and Army OIGs provided documentation on behalf of Naval Criminal Investigative Service and the Army Criminal Investigation Command.

among the OIGs of the 11 participating agencies or military investigative offices.

We conducted this performance audit from May 2020 to June 2021 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

The SBIR program was created by the Small Business Innovation Development Act of 1982 and has four purposes: (1) to stimulate technological innovation, (2) to use small businesses to meet federal R&D needs, (3) to foster and encourage participation by minority and disadvantaged persons in technological innovation, and (4) to increase private sector commercialization of innovations derived from federal R&D efforts. The STTR program was established first as a pilot program by the Small Business Technology Transfer Act of 1992, and aims to, in addition to the purposes of the SBIR program, foster technology transfer through cooperation between small businesses and research institutions. The SBIR and STTR programs are similar in that participating agencies identify topics for R&D projects and support small businesses; the STTR program also requires the small business to partner with a research institution—such as a nonprofit college or university or federally funded R&D center.⁶ The programs are currently authorized through fiscal year 2022.⁷

The Small Business Act, as amended, which authorizes the programs, requires federal agencies with extramural R&D budgets that exceed \$100 million to allocate 3.2 percent of those budgets to fund small businesses through the SBIR program.⁸ Federal agencies with extramural R&D budgets that exceed \$1 billion are required to reserve 0.45 percent of those budgets for the STTR program.⁹ The Small Business Act, as

⁶15 U.S.C. § 638(e)(6)-(8). Federally funded R&D centers are government-funded entities operated by nongovernmental organizations to meet long-term research or development needs that cannot be met as effectively by existing governmental or contractor resources.

⁷National Defense Authorization Act for Fiscal Year 2017, Pub. L. No. 114-328, § 1834, 130 Stat. 2000 (2016).

⁸15 U.S.C. § 638(f)(1)(I).

⁹15 U.S.C. § 638(n)(1)(B)(v).

amended, requires participating agencies to manage their programs to meet the requirements of the Act, the policy directives, and SBA regulations. Each participating agency also has considerable flexibility in designing and managing the specifics of its own programs under these requirements, such as flexibility in determining research topics, selecting award recipients, and administering funding agreements. At least once per year, each participating agency issues a solicitation requesting proposals for projects in a variety of topic areas determined by the agency. Each participating agency uses its own process to review proposals and determine which proposals should receive awards, and then negotiates contracts, grants, or cooperative agreements to issue the awards to the selected small business applicants. Those agencies that have both SBIR and STTR programs usually use the same process for both programs.

The Small Business Act, as amended, required SBA to add fraud, waste, and abuse prevention requirements to its policy directives for agencies to implement.¹⁰ SBA developed the requirements in consultation with participating agencies and a working group of OIGs from the participating agencies, and first included them in the 2012 SBIR and STTR policy directives. SBA's SBIR/STTR Policy Directive, which SBA combined to cover both the SBIR program and STTR program in a single document and updated most recently in October 2020, requires participating agencies to implement the 10 minimum requirements summarized in table 2 for preventing fraud, waste, and abuse in the programs.¹¹

Table 2: Summary of 10 Minimum Requirements for Agencies Participating in the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs to Prevent Fraud, Waste, and Abuse

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- i. Require certifications of ownership and other eligibility requirements from the SBIR/STTR awardee at the time of award and during the funding agreement life cycle.

 - ii. Include information on the agency's SBIR/STTR web page and an awards solicitation that explains how an individual can report fraud, waste, and abuse, as provided by the Office of Inspector General (OIG).

 - iii. Designate at least one individual in the agency to serve as the liaison for the programs, the OIG, and the agency's suspension and debarment official (SDO).^a
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¹⁰15 U.S.C. § 638b(a).

¹¹SBA, *Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Program Policy Directive* (Effective: May 2, 2019), referred to herein as "SBIR/STTR Policy Directive" or "policy directive." We also reviewed the October 1, 2020, version of the policy directive, which went into effect during our review.

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- iv. Include on the agency's SBIR/STTR web page information concerning successful prosecutions of fraud, waste, and abuse in the programs.
 - v. Establish and communicate a written policy requiring all agency personnel involved with the programs to notify the OIG if anyone suspects fraud, waste, or abuse.
 - vi. Ensure there is an adequate system to enforce accountability (through suspension and debarment, fraud referrals, or other efforts to deter wrongdoing and promote integrity) by developing separate standardized templates for each referral made to the OIG or the SDO, and a process for tracking such referrals.
 - vii. Ensure compliance with the eligibility requirements of the programs and the terms of the SBIR/STTR funding agreement.
 - viii. Work with the agency's OIG on efforts to establish fraud detection indicators, coordinate the sharing of information on fraud, waste, and abuse with other federal agencies, and improve education and training of SBIR/STTR program officials, applicants, and awardees on issues related to fraud, waste, and abuse.
 - ix. Develop policies and procedures to avoid funding essentially equivalent work. Among other things, agencies could comprehensively search SBIR.gov (SBA's primary government-wide website for the programs) prior to the award or document the funding agreement file with a certification showing that the small business concern has not already received funding for essentially equivalent work.
 - x. Consider enhanced reporting requirements during the funding agreement.
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Source: GAO analysis of the Small Business Administration's (SBA) SBIR/STTR Policy Directive (Effective May 2, 2019). | GAO-21-413

^aThe suspension and debarment process helps protect the federal government from fraud, waste, and abuse by using a number of tools to avoid doing business with non-responsible contractors.

Agency OIG responsibilities include preventing and detecting fraud, waste, and abuse in their agencies' programs and operations. To do this, agency OIGs conduct and supervise audits, inspections, and investigations. The Small Business Act, as amended, includes requirements for the participating agencies' OIGs to prevent fraud, waste, and abuse in the SBIR and STTR programs by:

- establishing fraud detection indicators;
- reviewing the agency's regulations and operating procedures;
- coordinating information sharing with federal agencies, to the extent otherwise permitted under federal law; and
- improving education, training, and outreach to administrators of, applicants to, and recipients of awards under the SBIR or STTR programs.¹²

¹²SBIR/STTR Reauthorization Act of 2011, Pub. L. No. 112-81, div. E, tit. LI, § 5143(a)(5), 125 Stat. 1298, 1855-6 (codified at 15 U.S.C. § 638b(a)(5)).

In addition, each participating agency's OIG is required to submit an annual report to specified congressional committees detailing any SBIR or STTR fraud, waste, or abuse investigations over the past year, including the costs of those investigations.¹³

Established in 2009, the SBIR Investigations Working Group includes OIGs from the participating agencies and was originally co-chaired by the OIGs from NSF and DOE; NASA OIG subsequently joined as a co-chair, according to an NSF OIG official. The group shares information among the participating agencies' OIGs, SBA, and the Department of Justice on ongoing investigations, lessons learned, and best practices related to investigations. The group has also increased awareness of new fraud schemes used in attempts to defraud the SBIR or STTR programs, according to officials from the NASA OIG.

To help managers combat fraud and preserve integrity in government agencies and programs, GAO identified leading practices for managing fraud risks and organized them into a conceptual framework called the Fraud Risk Management Framework.¹⁴ The Fraud Risk Management Framework encompasses control activities to prevent, detect, and respond to fraud, with an emphasis on prevention, as well as structures and environmental factors that influence or help managers achieve their objective to mitigate fraud risks (see fig. 1).

¹³SBIR/STTR Reauthorization Act of 2011, § 5143(c) (codified at 15 U.S.C. § 638b(c)).

¹⁴GAO, *A Framework for Managing Fraud Risks in Federal Programs*, [GAO-15-593SP](#) (Washington, D.C.: July 2015).

Figure 1: The Fraud Risk Management Framework



Source: GAO-15-593SP | GAO-21-413

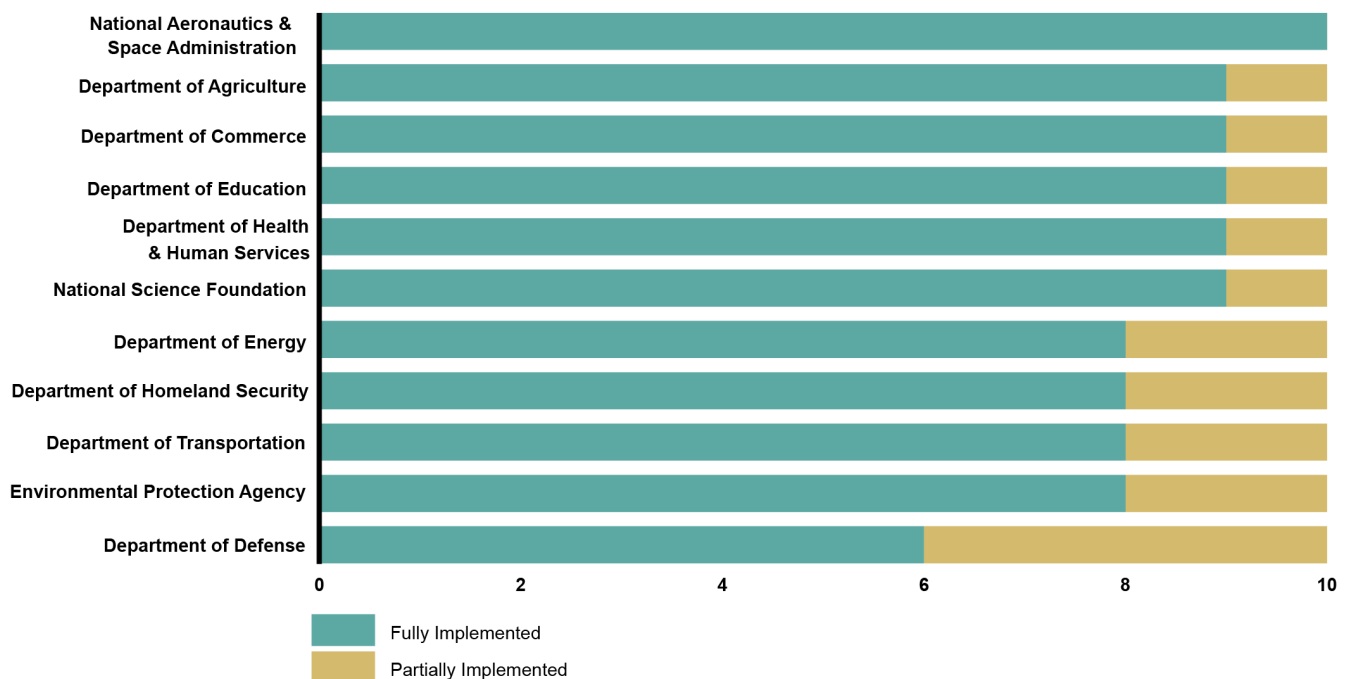
Agencies Largely Implemented Requirements, with Some Exceptions

The 11 agencies participating in the SBIR and STTR programs largely implemented the 10 minimum requirements for preventing fraud, waste, and abuse in their programs. The agencies took differing approaches to implementing requirements. In addition, program officials provided various reasons for not fully implementing some requirements, including that they were unaware their agency had not fully implemented the requirement or believed they had done so through other actions.

Agencies Largely Implemented the 10 Minimum Requirements

The 11 agencies participating in the SBIR and STTR programs, including their selected agency components, largely implemented the 10 minimum requirements. One of the agencies, NASA, fully implemented all 10 minimum requirements. The remaining agencies, including their selected components, fully implemented most requirements—nine at USDA, Commerce, Education, HHS, and NSF; eight at DOE, DHS, DOT and EPA; and six at DOD. DOD’s components each implemented more than six of the requirements, with Army and Navy fully implementing eight and Air Force fully implementing seven. Agencies and components that did not fully implement a minimum requirement were deemed to have partially implemented it. We found no instances of agencies not implementing a requirement. Results for the 11 agencies are summarized in figure 2; for more detailed results, see appendix I.

Figure 2: Agencies’ Implementation of 10 Minimum Requirements for Preventing Fraud, Waste, and Abuse in the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs



Source: GAO analysis of agency data. | GAO-21-413

These results showed an improvement from our 2017 review, in which fewer agencies had fully implemented requirements, including several

with unimplemented requirements. For example, Commerce fully implemented six requirements in 2017, partially implemented three, and did not implement one; our current review found that the department fully implemented nine of the requirements and partially implemented one. Additionally, in 2017, the Department of Education fully implemented seven requirements, partially implemented two, and did not implement one; our current review found nine requirements fully implemented, with one partially implemented and no requirements unimplemented.

The 10 minimum requirements reflect some of the leading practices outlined in GAO's 2015 Fraud Risk Management Framework, which encourages a preventative approach over a detection and response (or "pay and chase") approach to managing fraud risks in federal programs.¹⁵ For example, requirements that agencies collaborate with their OIG on development of fraud indicators and on education and training of program personnel, applicants, and awardees, are consistent with the Fraud Risk Management Framework's leading practices of identifying program-specific threats and enhancing fraud awareness. In addition, the requirement that the agencies post information on their program websites about successful prosecutions could help deter fraud, which is consistent with a preventative approach to fraud.

In general, agencies used different approaches to implement the minimum requirements. For example, prior to making awards, agencies used different approaches for verifying applicants' or awardees' eligibility to receive federal funds, including SBIR and STTR awards. Agencies also used different approaches to avoid funding duplicative or essentially equivalent work:¹⁶

- To verify applicants' or awardees' eligibility to receive federal funds, program officials from most of the agencies said their agencies check government-wide databases, including the System for Award Management (SAM) or the Federal Awardee Performance and

¹⁵GAO-15-593SP. We did not evaluate whether agencies' implementation of the 10 minimum requirements was effective or aligned with the leading practices.

¹⁶In its policy directive, SBA defines "essentially equivalent work" as: (a) work that is substantially the same research, which is proposed for funding in more than one contract proposal or grant application submitted to the same federal agency, or submitted to two or more different federal agencies for review and funding consideration; or (b) an instance where a specific research objective and the research design for accomplishing the objective are the same or closely related to another proposal or award, regardless of the funding source. SBA, *SBIR and STTR Program Policy Directive* (Effective: May 2, 2019).

Integrity Information System, to check for information on active suspensions or debarments and other negative performance information.¹⁷ Program officials from several agencies also mentioned checking their own agency databases for past performance or profile information for applicants. Air Force officials said they and other services check a DOD contracting portal for this information. Program officials from USDA and other agencies also said they review financial information obtained from applicants or third-party commercial sources. Officials at larger programs, such as Air Force and DOE, told us they mainly screen those businesses selected for award for fraud, waste, and abuse, rather than the thousands of Phase I applications they receive every year.

- To verify applicants' and awardees' specific eligibility to receive SBIR and STTR awards, officials from several agencies said they mainly rely on self-certifications, in which applicants or awardees affirm in writing that, upon award, their companies will meet the specific ownership, control, and other eligibility requirements outlined in the SBIR/STTR regulations and policy directive.¹⁸ Program officials described additional steps their agencies take—including mapping company addresses, checking company websites, checking for audit or investigation findings, or tracking businesses' collaborators and other awards—to verify that awardees can comply with program-specific requirements, including that the R&D work is conducted in the U.S., mainly by the awardees themselves at their own facilities. Program officials from NSF said they additionally require companies to list their facilities and provide proof of ownership or of permission to use the facilities, such as a copy of a lease or a letter from the landlord.

¹⁷The suspension and debarment process helps protect the federal government from fraud, waste, and abuse by using a number of tools to avoid doing business with non-responsible contractors; the Suspension and Debarment Official makes the decision as to whether to suspend or debar a contractor. "Suspension" means action taken to disqualify a contractor temporarily from government contracting and government-approved subcontracting. "Debarment" means action taken to exclude a contractor from government contracting and government-approved subcontracting for a reasonable, specified period.

¹⁸Federal regulations provide detailed size and eligibility requirements for SBIR and STTR programs in 13 C.F.R. §§ 121.701 through 121.705. For example, at the time of award, an eligible SBIR awardee is a business concern that is more than 50 percent directly owned and controlled by one or more individuals (who are citizens or permanent resident aliens of the U.S.) or that is owned by other small business concerns meeting this ownership and control standard, or that is owned by a tribe—among other types of entities. The regulations further require that awardees self-certify that they meet the eligibility requirements in § 121.702. This certification is among those that the SBIR/STTR policy directive requires agencies to collect from awardees at the time of award.

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- Officials from some of the agencies said that, to avoid funding duplicate proposals or essentially equivalent work already funded by another agency, they search awards data in SBIR.gov—SBA’s primary government-wide website for the SBIR and STTR programs—for potentially duplicate R&D topic areas, awardees, or proposal titles. Officials also described using databases and software tools, such as programs that allow users to compare documents for possible plagiarism and to help them identify applicants’ other funding sources. NASA officials said they use their own software tool based on open-source software to check NASA’s large number of proposals—over 1,500 each year—for duplication with other proposals the program received. The officials said NASA updated the tool in 2020 to use natural language processing techniques that analyze topics and language in proposals, rather than just counting the frequency of certain words.

Program officials also described various approaches they used post-award to monitor awardees’ adherence to the SBIR/STTR program requirements and the funding agreement:

- Program officials from EPA and several other agencies said that, shortly after making awards, they use kickoff meetings to further educate awardees about the program requirements and about fraud, waste, and abuse prevention in the program. USDA officials said they hold a new-awardee webinar, in which fraud, waste, and abuse is discussed. Officials at Education and Air Force said they require companies, proposal reviewers, or others involved with the program to certify in writing that they received the fraud, waste, and abuse information.
- Officials from five agencies said that, during the funding agreement life cycle (period of performance), they typically conduct site visits with awardees or receive in-person or virtual tours or demonstrations of work products. Program officials from DOE’s Office of Science and ARPA-E said they have conducted visits and on-site audits of awardees. Starting in 2019, Office of Science conducted 17 audits of awardees in two geographic regions. Officials from ARPA-E, which has a much smaller program, said they aim to visit awardees annually. NASA officials said they conduct virtual site visits with first-time Phase II award recipients to verify facilities, get more insight into each company, and ensure company officials understand the program requirements.
- Officials from most agencies said their agencies also review progress reports, invoices, and other information during the funding agreement

life cycle. DHS receives monthly reports from awardees detailing the research progress and spending. Similarly, DOT requires monthly or bi-monthly progress reports for all of its awards. DOT officials said that, as a smaller program, their technical and contracting staff communicate regularly with awardees about the research and review invoices to ensure they track with research progress. Officials of other agencies said they make the release of program funds conditional on the receipt of awardees' interim reports, invoices, or additional certifications, which agencies are required to collect from awardees during the funding agreement life cycle.¹⁹ NIST officials said if an awardee is identified as a risk, the agency makes the release of funds conditional on the receipt of backup documentation from the awardee, such as timesheets, invoices, and other financial information. The officials said awardees considered risky could include those with limited grants experience or a record of having been late or noncompliant with reporting requirements.

Some of the agencies or selected agency components fully implemented requirements as a result of our review. In response to the results of our analysis, officials at the Army, Education, and NSF fully implemented the requirement to post, on their program's website, successful fraud prosecutions of SBIR or STTR awardees. The agencies did so by posting a link to such information on SBA's SBIR.gov website, which SBA officials told us was an acceptable alternative means of implementing the requirement.²⁰ The officials said they had not previously implemented the requirement because their agency either did not have fraud prosecutions to report, did not want their program to appear intimidating to potential first-time applicants, or were unaware of SBA's acceptable alternative. Similarly, as a result of our review, EPA fully implemented the requirement to establish a reporting template and a process for tracking fraud, waste, and abuse allegations to the OIG and SDO.

¹⁹The SBIR/STTR policy directive requires that agencies collect time-of-award certifications which generally focus on the SBIR and STTR program eligibility requirements in 13 C.F.R. §§ 121.701 through 121.705. In addition, the directive requires agencies to collect specific certifications from awardees during the funding agreement life cycle that focus on awardees' compliance with other program requirements, such as a requirement that principal investigators spend a majority of their time as an employees of awardees' companies.

²⁰SBA officials told us this alternative applied to agencies that did not have their own SBIR or STTR program-related prosecutions to report. For the purpose of our review, however, we applied the alternative more broadly and considered any agency to have fully implemented the requirement if the agency linked to the prosecutions list on SBIR.gov.

Some Requirements Not Fully Implemented for a Variety of Reasons

Agencies gave a variety of reasons for not fully implementing one or more minimum requirements, including that SBIR/STTR program officials were unaware their agency had not fully implemented the requirement or believed they did so through other actions (see table 3). Certifications were a common oversight across 10 agencies.

Table 3: Minimum Requirements Not Fully Implemented by Agencies and Selected Agency Components for Preventing Fraud, Waste, and Abuse in SBIR and STTR Programs

Agency and relevant component	Partially implemented requirements
Department of Agriculture (USDA)	<p>Certifications. USDA provided evidence that it collected post-award certifications, but program officials said they did not collect certain certifications required at the time of award related to the ownership and control of small businesses. Program officials said they assumed that the Small Business Administration (SBA) collected these certifications and that USDA could meet the requirement to obtain them by checking small businesses' registrations on SBA's SBIR.gov website.</p> <p>In addition, USDA's certification language differed materially from the language required in the SBIR/STTR policy directive. SBA officials told us agencies are required to collect all pertinent certifications using the language in the policy directive but acknowledged that agencies have indicated the language could be simplified and clarified without substantive changes.</p>
Department of Commerce—National Oceanic and Atmospheric Administration (NOAA)	<p>Certifications. NOAA collected certifications but used certification language that differed materially from the language required in the SBIR/STTR policy directive. Program officials said they said they were unaware of the discrepancies and agreed that the differences were material. The officials said that NOAA recently initiated a number of steps to correct the material differences and ask current and past awardees to resubmit certifications using revised language. As of April 2021, these steps were still in process for NOAA's past and current awardees, and the revised language will apply to the agency's new awardees, if included in a subsequent funding announcement.</p>
Department of Defense (DOD)—Army	<p>Information on reporting to OIGs. The Army met an aspect of this requirement when it participated in DOD's fiscal year 2021 SBIR and STTR program solicitations, which included information on how to report suspected fraud, waste, and abuse to the DOD Office of Inspector General (OIG). As of April 2021, however, the Army had not implemented the other aspect, requiring agencies to also post such information on their SBIR and STTR program website, nor did we find the information on a DOD-wide website for the programs.</p> <p>Policy to notify OIG. Program officials said they report allegations of fraud, waste, and abuse to the Army OIG but did not provide evidence of a written policy requiring the officials to report such allegations, as appropriate, to the Army or DOD OIGs or the Army Criminal Investigation Command.</p>
DOD—Navy	<p>Certifications. Navy collected certifications but used certification language that differed materially from the language required in the SBIR/STTR policy directive. Program officials said they unintentionally used outdated certifications and were unaware that the required language had changed. In April 2021, the agency stated that it revised its certification forms. These revised certification forms will apply for awards issued in response to the Navy's most recent solicitation that opened in May 2021.</p> <p>Tracking referrals. The Navy OIG provides an online template for reporting fraud, waste, and abuse. However, program officials said they do not track their program's referrals to the Navy OIG or the Naval Criminal Investigative Service.</p>

Agency and relevant component	Partially implemented requirements
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DOD—Air Force	<p>Certifications. Program officials provided evidence they collected most but not all of the required certifications from awardees. Specifically, they did not provide evidence they collected, at the time of award and throughout the funding agreement life cycle, required certifications related to STTR awardees' exercise of direction and control over the R&D work. In addition, Air Force's certification language differed materially from the language required in the SBIR/STTR policy directive.</p> <p>Policy to notify OIG. Program officials stated that the Air Force communicated a policy to report suspected fraud, waste, or abuse to the Air Force Office of Special Investigations (AFOSI) but did not provide evidence of a policy requiring the officials to report such allegations, as appropriate, to the Air Force OIG, DOD OIG, or the AFOSI.</p> <p>Tracking referrals. The AFOSI provides an online template for reporting fraud, waste, and abuse, and program officials said they work closely with that office. However, the officials said they do not formally track their program's referrals to the investigative service or the agency's suspension and debarment official.</p>
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Department of Education	<p>Certifications. The department collected certifications but used certification language that differed materially from the language required in the SBIR/STTR policy directive. The department revised its certifications forms in April 2021, which program officials said would apply to future awardees and some current ones. However, the materially different language will remain in effect until the agency begins to require the language for new awardees with a subsequent funding announcement.</p>
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Department of Energy (DOE)—Advanced Research Projects-Energy (ARPA-E)	<p>Certifications. ARPA-E collected certifications but used certification language that differed materially from the language required in the SBIR/STTR policy directive. Program officials said they unintentionally used outdated language and were unaware that the required language had changed. The agency revised its certifications forms in April 2021 to correct the material differences. However, the materially different language will remain in effect until the agency begins to require the language for new awardees with a subsequent funding announcement.</p>
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DOE—Office of Science	<p>Certifications. The Office of Science collected certifications but used certification language that differed materially from the language required in the SBIR/STTR policy directive. Program officials said they unintentionally used outdated language and were unaware that the required language had changed. The office revised its certifications forms in April 2021 to correct the material differences. According to DOE officials, they immediately began to require submission of the updated certifications for any pending new awards where the applicant had not previously submitted the version with the outdated language.</p> <p>Tracking referrals. The DOE OIG provides a template on its website for reporting fraud, waste, and abuse, but program officials told us they have only made a very small number of referrals and have not needed a process for tracking them. □</p>
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Department of Health and Human Services—National Institutes of Health (NIH)	<p>Certifications. NIH collected certifications but used certification language that differed materially from the language required in the SBIR/STTR policy directive. Program officials said they unintentionally used outdated language and were unaware that the required language had changed. The agency said it will revise its certifications forms for the next awards cycle. However, the materially different language will remain in effect until the agency begins to require the language for new awardees with a subsequent funding announcement.</p>
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Department of Homeland Security (DHS)	<p>Certifications. DHS collected certifications but used certification language that differed materially from the language required in the SBIR/STTR policy directive. In March 2021, program officials said they contacted the contracting officer about revising the certification forms but did not know the timeline for implementing the revision.</p> <p>OIG collaboration. Program officials provided evidence of collaboration with the OIG to provide training to awardees and meet other aspects of the requirement, but they did not provide evidence they worked together to establish fraud indicators or train applicants. In March 2021, the officials said they planned to work with the OIG to update the program's fraud indicators and expand fraud, waste, and abuse training to program applicants.</p>
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Agency and relevant component Partially implemented requirements

Department of Transportation (DOT)	<p>Certifications. DOT collected certifications but used certification language that differed materially from the language required in the SBIR/STTR policy directive. Program officials said they unintentionally used outdated language and were unaware that the required language had changed. In April 2021, the agency said it plans to revise its certifications forms to correct the material differences. However, the materially different language will remain in effect until the agency begins to require the language for new awardees with a subsequent funding announcement.</p> <p>OIG collaboration. Program officials said they began to collaborate on fraud indicators with the agency's OIG in March 2021. The program also provides training to applicants and agency staff that administer SBIR contracts using information on fraud, waste, and abuse provided by the OIG. However, the applicant training is optional, and officials said the OIG information is not repeated for awardees, who may not have seen the information as applicants.</p>
Environmental Protection Agency (EPA)	<p>Certifications. EPA collected most of the required certifications from awardees at the time of award but did not collect certifications related to awardees' ability to document that their businesses meet the ownership and control requirements in SBIR/STTR regulations. The program manager said they were unaware of the requirement to collect the certifications. In addition, EPA's certification language differed materially from the language required in the SBIR/STTR policy directive. In December 2020, the agency revised its certification forms for the next awards cycle in June 2021. However, the materially different language will remain in effect until the agency begins to require the language for new awardees with the next funding announcement.</p> <p>OIG collaboration. In April 2021, program officials said they developed fraud indicators on duplicate funding and company location as the result of an agency OIG workshop. However, the program did not work with the OIG to educate and train applicants but would consider taking corrective action.</p>
National Science Foundation (NSF)	<p>Certifications. Program officials provided evidence they collected most but not all of the required certifications from awardees. Specifically, they did not provide evidence they collected, at the time of award and throughout the funding agreement life cycle, required certifications related to STTR awardees' exercise of direction and control over the R&D work. The officials said they did not collect the STTR-specific certifications because their program rules already require that the principal investigator is with the small business and not a partnering organization, such as a university. In addition, NSF's certification language differed materially from the language required in the SBIR/STTR policy directive.</p> <p>In April 2021, the agency began taking steps to revise its certification forms and said it expects to implement the revisions within the next year, when the agency completes an ongoing conversion to a different online platform for submitting SBIR and STTR applications.</p>

Source: GAO analysis of the Small Business Administration's Small Business Innovation Research (SBIR) and Technology Transfer (STTR) Policy Directive (Effective May 2, 2019) and agency information and documentation. | GAO-21-413

By not fully implementing some of the minimum requirements, agencies, including their selected components, could potentially limit their ability, as follows, to prevent or address fraud, waste, and abuse in their SBIR/STTR programs:

- **Certifications.** Ten agencies listed in table 3, including their selected components, partially implemented the requirement to collect certifications from awardees because they (1) used certification language that differed materially from the language required by the SBIR/STTR Policy Directive or (2) did not collect certain

certifications.²¹ As the main reason, program officials from multiple agencies and components said they were unaware that SBA had changed the required certifications language. By not collecting all certifications using the required language, agencies could complicate future efforts to hold individuals and businesses accountable for misrepresentations of their eligibility for SBIR and STTR awards.

- **OIG collaboration.** By not implementing all aspects of this requirement—to collaborate with their OIG to develop fraud indicators; share information with other agencies; and educate and train program officials, applicants, and awardees—DHS, DOT, and EPA may be missing opportunities to identify program-specific fraud risks through discussions among program offices and OIGs (or military investigative offices) and to enhance the fraud awareness of key audiences. GAO’s 2015 Fraud Risk Management Framework identifies such opportunities among the leading practices for managing fraud risks in federal programs.
- **Policy to notify OIG, track referrals, and provide information on reporting to OIGs.** These three minimum requirements help provide a systematic approach for ensuring that fraud, waste, and abuse allegations are referred, as appropriate, to the OIG (or military investigative office) or the agency’s suspension and debarment official. By not fully implementing any or all of the requirements, two agencies—DOD (Air Force, Navy, and Army) and DOE’s Office of Science—risk not having a systematic approach for referring fraud, waste, and abuse allegations.

Most OIGs Use Fraud Detection Indicators and Conducted Investigations

Most OIGs or military investigative offices mitigate risks of fraud, waste, and abuse in the SBIR and STTR programs by establishing, sharing, and proactively using fraud detection indicators; conducting investigations; or evaluating fraud vulnerabilities. Military OIGs are in the process of implementing fraud, waste, and abuse prevention requirements either by delegating authority for the requirements or by implementing them directly.

²¹We analyzed the agencies’ certifications for differences from the certifications language in the SBIR/STTR Policy Directive. SBA officials told us that agencies are required to collect all pertinent certifications and that the agencies must use the policy directive language, but acknowledged that agencies have indicated the language could be simplified and clarified without substantive changes. We informed agencies that we identified material differences (not minor revisions) in their certifications and considered their responses.

All OIGs Established Indicators to Better Identify Potential Fraud, Waste, and Abuse

As required under the Small Business Act, as amended, all OIGs or military investigative offices established fraud detection indicators, most of which are specific to the SBIR and STTR programs. Fraud detection indicators ranged from specific fraud risks—such as “bait and switch” schemes, in which contractors propose an experienced researcher as the principal investigator (project manager) and then use a less-qualified, lower-cost employee to serve in that role—to general indicators of potential fraud, such as significant levels of foreign ownership.²² Common indicators include a small business submitting duplicate proposals to more than one agency or having non-existent or inadequate R&D facilities.²³

Nine OIGs established indicators that are specific to the SBIR or STTR programs, such as failure to submit required award verification information or funding agreement certifications, or company affiliation with a larger organization, which renders them ineligible for a small business program. In contrast, four other OIGs established indicators that apply to all contracts or grants awarded by their agencies and not just those in the SBIR and STTR programs, such as multiple contractors colluding to keep bid prices high. Seven OIGs categorized their indicators to correspond to the type of fraud or part of the funding agreement life cycle in which the fraud can occur. As OIG officials have pointed out, the presence of an indicator for a particular applicant or awardee does not necessarily mean fraud is occurring, though it may signal the need for further inquiry.

Twelve OIGs or military investigative offices stated that they train program administrators, and 11 OIGs or military investigative offices stated that they train awardees on fraud detection indicators so that program administrators and awardees can better identify potential fraud, waste, and abuse. For example, officials from the Commerce OIG stated that they briefed NOAA’s SBIR award recipients, program administrators, and contracting officers in 2019. Also, Commerce OIG officials stated that they present annually at NOAA’s Financial Assistance Workshops, covering topics such as fraud detection indicators, examples of successful fraud prosecutions, and ways to contact the OIG for suspected

²²For SBIR and STTR awards, the principal investigator (project manager) is the one individual to provide the scientific and technical direction to a project supported by the award, as designated by the small business applying for the award. SBA, *Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Program Policy Directive* (Effective: May 2, 2019).

²³The presence of an indicator for a particular applicant or awardee does not necessarily mean fraud is occurring, though it may signal the need for an inquiry.

fraud, waste, and abuse. Most of the OIGs stated that their agencies require program administrators and awardees to attend mandatory briefings.

Using knowledge from these trainings, officials from 10 program offices stated that they incorporate their OIGs' or military investigative offices' fraud detection indicators in one or more of the following processes: collecting certifications or other documents at the time of application; checking databases such as SAM; and conducting site visits or reviewing other reporting requirements, such as invoices. For more examples, see table 4.

Table 4: Examples of Fraud Detection Indicators and How Agencies Use Them in Award Processes for the SBIR and STTR Programs

Fraud detection indicator	Example of how agencies use the indicator
Principal investigator appears to be ineligible for award	Agency reviews System for Award Management to confirm that the principal investigator has not been suspended or debarred from government contracts.
Fake website and emails	Agency reviews company websites and other internet resources to verify legitimacy and eligibility prior to award.
Awards to the same principal investigator that overlap in time	Agency requires applicants to submit a form documenting current and pending support to determine how much effort the principal investigator is proposing in any given time frame.
History of ineffectively managing federal awards	Prior to award, agency checks the applicant in the Federal Awardee Performance and Integrity Information System for performance history.
Exaggerating ability to perform work stated in proposal	Agency conducts site visits to selected applicants' facilities to inspect their labs and assess capacity to perform work.
Excessive charges of employee time	Agency requires awardees to submit invoices for approval, and agency reviews invoices against deliverables done to date and the terms of the contract.

Source: GAO analysis of interviews and documents from the 11 agencies that participate in the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs | GAO-21-413

Most OIGs Conducted Investigations or Evaluated Fraud Vulnerabilities in Agency Programs

According to agency interviews and documentation, participating agencies' OIGs, including military investigative offices, initiate SBIR fraud, waste, and abuse investigations in two ways. First, all 14 of the OIGs or military investigative offices for the participating agencies and their components initiate investigations in response to referrals, which can be made by program officials, small businesses, or members of the public. These referrals can be submitted using forms available on OIG or military investigative office websites or through hotlines. Second, 10 of the 14 OIGs or military investigative offices also initiate investigations proactively. They do so based on information shared by other investigative partners, including other OIGs or military investigative offices, or based on signs of suspicious activity (which may have been identified by SBIR/STTR program offices), such as those identified

through the use of fraud detection indicators. They use these indicators in the following ways:

- *To assess the need to initiate investigations.* Officials from at least five OIGs and military investigative offices stated that they use indicators to decide which awards to investigate. For example, in written responses, Navy officials stated that the Naval Criminal Investigative Service (NCIS) may initiate an investigation into an award if it has information that a principal investigator received multiple, simultaneous awards, which can indicate insufficient time to actively work on all of them.
- *To guide database searches.* Some OIGs or military investigative offices stated or provided documentation that they use fraud detection indicators to guide searches of government-wide databases or other resources. For example, DHS OIG officials provided documentation that they use indicators to guide searches of SAM and the Federal Awardee Performance and Integrity Information System. Both systems are government databases used by one or more agencies with SBIR and STTR programs to verify applicants' eligibility and performance records. DOE OIG officials stated that they use specialized software to search for fraud indicators such as plagiarism.
- *To share information with other OIGs.* Ten OIGs stated that they participate in the SBIR Investigations Working Group, as do the military investigative offices, to share information on fraud detection indicators and cases undergoing investigation or prosecution for fraud. For instance, during a September 2019 working group meeting, the NSF OIG presented on a case in which a professor at Georgia Tech submitted certifications that contained materially false and fraudulent statements and omissions. Similarly, in an April 2020 meeting, the AFOSI presented on how to use job review websites to detect SBIR fraud. At least five OIGs stated that they initiate investigations based on the type of information shared among working group participants.

From 2017 through 2020, many OIGs or military investigative offices initiated investigations related to SBIR or STTR programs either in response to referrals or proactively, according to their reports to Congress that are required annually under the Small Business Act, as amended. For most agencies, the number of investigations initiated in these years varied, but those with more SBIR and STTR awards tended to have more OIG investigations (see table 5).

Table 5: Number of Office of Inspector General (OIG) Fraud, Waste, or Abuse Investigations Initiated Related to SBIR and STTR Programs in Fiscal Years 2017-2020, as of April 2021

Agency (number of awards in fiscal year 2019)	Number of OIG investigations			
	2017	2018	2019	2020
Department of Agriculture (105)	0	1	0	0
Department of Commerce (36)	0	0	0	0
Department of Defense ^a (3700)	21	6	20	14
Department of Education (23)	0	0	0	0
Department of Energy (617)	7	4	7	5
Department of Health and Human Services (1485)	6	3	4	1
Department of Homeland Security (37)	0	0	1	1
Department of Transportation ^b (14)	—	—	—	0
Environmental Protection Agency (32)	1	0	2	2
National Aeronautics and Space Administration (525)	9	2	9	9
National Science Foundation (477)	11	11	3	2

Legend: — = No report provided




Sources: OIG annual reports to Congress on Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) investigations and [GAO-20-693](#). | GAO-21-413

^aThe Department of Defense OIG’s annual report to Congress says it transmits information from the three military investigative offices as well as the Defense Criminal Investigative Service.

^bOfficials from the Department of Transportation’s OIG told us that they had not consistently provided their reports to Congress prior to 2020 but that they plan to do so moving forward.

Further, as co-chair of the SBIR Investigations Working Group, the NSF OIG informally collects investigations data through the group’s emails and meetings. According to these data, OIGs and military investigative offices opened over 200 SBIR-related fraud, waste, or abuse investigations since the start of the group in 2009, including at least 50 investigations that involved awards made by multiple agencies. As of January 2021, these investigations resulted in 15 indictments; 27 guilty verdicts or pleas; more than \$50 million in criminal restitution, civil settlements, or administrative actions; and the suspension or debarment of about 65 individuals or companies from participation in the programs. Figure 3 illustrates examples of prosecuted cases and fraud schemes.

Figure 3: Examples of Small Business Innovation Research (SBIR) Fraud Schemes and Prosecuted Cases

		
Prosecuted case (year) ^a	Fraud details	Outcome
<p>U.S. v. Aldissi and Bogomolova (2018)^b Researchers were convicted of wire fraud and identity theft, among other crimes.</p> <p>Agencies: Departments of Defense, Energy, and Homeland Security; Environmental Protection Agency, National Aeronautics and Space Administration (NASA), and National Science Foundation.</p>	<p>In SBIR awards and proposal certifications, researchers submitted false information about the facilities and costs of the proposed research and the principal investigator assigned to work on it.</p>	<p>Sentences: Two researchers, 15 and 13 years in prison Restitution: \$10.5M</p>
<p>U.S. v. Velvev (2019)^c Chicago software developer convicted of theft of U.S. property</p> <p>Agencies: NASA, National Science Foundation</p>	<p>When obtaining SBIR grants, a software developer submitted a fake investment letter that identified a purported investor who was an acquaintance of his wife.</p>	<p>Sentence: Three months in prison Restitution: \$200,000</p>
<p>U.S. v. Zhang (2019)^d Former Virginia Tech professor convicted of committing federal grant fraud, making false statements, and obstruction by falsification.</p> <p>Agencies: Department of Energy, National Science Foundation</p>	<p>A professor applied for SBIR grants for his U.S. company to conduct research. However, the professor already completed some research in China at his “shadow lab.”</p>	<p>Sentence: Time served of approximately 3 months in prison and 2 years of supervised release. Penalties: \$500</p>

Source: GAO analysis of Office of Inspector General documents, Department of Justice data, and court documents. | GAO-21-413

^aRefers to the year in which the case was concluded or of the most recent appeal.
^bU.S. v. Aldissi and Bogomolova, No. 15-14193, 758 Fed. Appx. 694, 698-99 (11th Cir. 2018).
^cU.S. v. Velvev, No. 1:15-cr-00729, 2019 WL 2775830, at *1 and *6 (N.D.Ill. May 16, 2019).
^dU.S. v. Zhang, No. 7:17-cr-00073-MFU, 2019 WL 8645967, at *1, and *3 (W.D.Va. Sept. 6, 2019).

In addition, the DOE and HHS OIGs—as OIGs of the two agencies with the greatest number of SBIR and STTR awards in fiscal year 2019 after

DOD—evaluated fraud, waste, and abuse vulnerabilities in their agencies’ SBIR or STTR programs. In a 2017 audit report, the DOE OIG reported that it found issues related to awardee compliance with the programs’ award requirements.²⁴ For example, through its review of nine awards, the DOE OIG reported that three awardees had not properly accounted for or maintained adequate supporting documentation for a portion of their project expenses, and that DOE had not ensured compliance with all terms and conditions of the awards.

In a 2019 report, the HHS OIG concluded that HHS had taken minimal action to improve policies and procedures for ensuring awardee eligibility and had not taken action to improve policies and procedures for preventing duplicative funding.²⁵ Further, the OIG identified 32 awardees out of a total of 800 awardees that received funds in 2015 or 2016 as high risk. The OIG conducted further analysis on this sample of 32 awardees and found that over two-thirds of them were potentially ineligible or potentially receiving duplicative funding. As a result, the HHS OIG reasserted prior recommendations from a 2014 report related to awardee eligibility and duplicative funding, which, according to the report, the agency’s program office had not implemented.²⁶

**Military Departments
Delegated Authority or Are
in the Process of
Implementing Fraud,
Waste, and Abuse
Prevention Requirements**

In 2017, we reported that DOD’s military department OIGs were not implementing or delegating authority to implement their SBIR and STTR fraud, waste, and abuse prevention requirements as required by the Small Business Act, as amended.²⁷ DOD’s oversight and audit responsibilities are separated among various OIGs, military investigative offices, and other entities. According to the Small Business Act, as amended, each participating agency’s OIG is responsible for implementing the fraud, waste, and abuse prevention requirements. In the case of DOD, that includes the DOD OIG and the OIGs of the three

²⁴U.S. Department of Energy Office of Inspector General. *Audit Report: Followup on the Small Business Innovation Research and Small Business Technology Transfer Programs*, OAI-M-17-06 (Washington, D.C.: April 11, 2017).

²⁵U.S. Department Health and Human Services Office of Inspector General. *Recommendation Followup: Vulnerabilities Continue to Exist in the HHS Small Business Innovation Research Program*, OEI-04-18-00230 (March 20, 2019).

²⁶U.S. Department Health and Human Services Office of Inspector General. *Vulnerabilities in the HHS Small Business Innovation Research Program*, OEI-04-11-00530 (April 2014).

²⁷[GAO-17-337](#)

military departments (Army, Navy, and Air Force). In practice, however, these OIGs do not investigate SBIR and STTR fraud; instead, the separate investigative offices or program offices within the three military departments conduct several of the activities included in the SBIR and STTR fraud, waste, and abuse prevention requirements assigned to OIGs.

We recommended in 2017 that—to help ensure that DOD is implementing the fraud, waste, and abuse prevention requirements assigned to OIGs—the Army, Navy, and Air Force OIGs either implement the requirements themselves or delegate implementation of them to their respective investigative services.²⁸ DOD agreed with the recommendation on behalf of the three military departments, and the Air Force addressed it in October 2019 by delegating the authority for implementation to the AFOSI. The Navy addressed it in December 2020 by deciding to retain responsibility for the statutory requirements within the Navy OIG, and the Navy OIG committed to coordinate with the appropriate individual naval agencies until a more appropriate Department of the Navy organization is identified to assume responsibility for the requirements. In March 2021, Navy officials stated that NCIS and the SBIR and STTR program office had been implementing some of the OIG fraud, waste, and abuse requirements assigned to the OIGs. For example, NCIS developed fraud detection indicators and provided annual fraud prevention training to SBIR program administrators.

Similarly, the Army OIG addressed our recommendation in March 2021, in part, by identifying the Army organizations with responsibilities corresponding to the OIG's requirements in the Small Business Act, as amended. Army OIG officials stated that these Army organizations are in the process of implementing the requirements and that the Army OIG will monitor their efforts and periodically review the SBIR and STTR programs. Further, Army OIG officials sent documentation of an Army SBIR program plan currently underway to establish an Applied SBIR Center of Excellence by January 2022. According to Army officials, this new center would streamline and integrate internal contracting controls for all Army SBIR awards.

Conclusions

Participating agencies have taken steps to implement most of SBA's 10 minimum requirements for preventing fraud, waste, and abuse in their SBIR and STTR programs. Moreover, most agencies improved in their

²⁸[GAO-17-337](#)

implementation of the requirements since our previous report in 2017. However, we identified several requirements that multiple agencies had not fully implemented:

- Ten agencies—USDA, Commerce (NOAA), DOD (Navy and Air Force), Education, DOE (ARPA-E, Office of Science), HHS (NIH), DHS, DOT, EPA, and NSF—did not collect all required certifications, had material differences from the language for certifications in the SBIR/STTR Policy Directive, or had both deficiencies. By ensuring that the certifications using the language in the policy directive are collected, these agencies can aid future efforts to hold individuals and businesses accountable if they misrepresent their eligibility for SBIR and STTR awards.
- Three agencies—DHS, DOT, and EPA—did not implement all aspects of the requirement to collaborate with the OIGs. By doing so, agencies can take advantage of opportunities to identify program-specific fraud risks and enhance fraud awareness of key audiences, which are leading practices for managing fraud risks in federal programs.
- Two agencies—DOD (Army, Navy, Air Force) and DOE (Office of Science)—did not fully implement requirements to have a policy to refer fraud, waste, and abuse allegations to OIGs (or military investigative offices); track such referrals; or provide information in solicitations and the program website on how to report suspected fraud, waste, and abuse to the OIG. By addressing these requirements, agencies can ensure they have a systematic approach for referring fraud, waste, and abuse allegations.

These and other leading practices for effective fraud risk management help to ensure that federal programs fulfill their intended purpose, funds are spent effectively, and assets are safeguarded. By taking such steps, agencies with SBIR and STTR programs may be better able to achieve their objective of mitigating fraud risk to these programs.

Recommendations for Executive Action

We are making a total of 21 recommendations, to all but one of the participating agencies in our review, to take steps to fully implement SBA's 10 minimum requirements for addressing fraud, waste, and abuse in the SBIR/STTR programs (three recommendations each to the Air Force and DOE; two recommendations each to the Army, Navy, DHS, DOT, and EPA; and one recommendation each to USDA, NOAA, Education, HHS, and NSF). Specifically:

The Secretary of Agriculture should ensure the SBIR program collects the required certifications from new SBIR awardees, beginning in future

funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive. (Recommendation 1)

The Administrator of NOAA should ensure that the SBIR program collects the required certifications from new SBIR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive. (Recommendation 2)

The Secretary of the Army should ensure that the SBIR/STTR program has, and communicates, a policy for reporting suspected, fraud, waste, or abuse to the Army Office of Inspector General or other designated authorities. (Recommendation 3)

The Secretary of the Army should ensure that the SBIR/STTR program provides information on its program website on how to report suspected fraud, waste, and abuse to the Army Office of Inspector General or other designated authorities. (Recommendation 4)

The Secretary of the Navy should ensure that the SBIR/STTR program collects the required certifications from new SBIR and STTR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive. (Recommendation 5)

The Secretary of the Navy should ensure that the SBIR/STTR program tracks referrals to the Office of Inspector General or Naval Criminal Investigative Service. (Recommendation 6)

The Secretary of the Air Force should ensure that the SBIR/STTR program collects the required certifications from new SBIR and STTR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive. (Recommendation 7)

The Secretary of the Air Force should ensure that the SBIR/STTR program has, and communicates, a policy for reporting suspected, fraud, waste, or abuse to the Air Force Office of Inspector General or other designated authorities. (Recommendation 8)

The Secretary of the Air Force should ensure that the SBIR/STTR program tracks referrals to the Air Force Office of Inspector General and the suspension and debarment officials. (Recommendation 9)

The Secretary of Education should ensure that the SBIR program collects the required certifications from new SBIR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive. (Recommendation 10)

The Secretary of Energy should ensure that ARPA-E's SBIR/STTR program collects the required certifications from new SBIR and STTR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive. (Recommendation 11)

The Secretary of Energy should ensure that the Office of Science's SBIR/STTR program collects the required certifications from SBIR and STTR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive. (Recommendation 12)

The Secretary of Energy should ensure that the Office of Science's SBIR/STTR program tracks SBIR and STTR fraud, waste, and abuse referrals to the Office of Inspector General. (Recommendation 13)

The Secretary of Health and Human Services should ensure that the National Institutes of Health's SBIR/STTR program collects the required certifications from new SBIR and STTR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive. (Recommendation 14)

The Secretary of Homeland Security should ensure that the SBIR program collects the required certifications from new SBIR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive. (Recommendation 15)

The Secretary of Homeland Security should ensure that collaboration occurs between the SBIR program office and the Office of Inspector General to establish fraud indicators and train applicants. (Recommendation 16)

The Secretary of Transportation should ensure that the SBIR program collects the required certifications from new SBIR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive. (Recommendation 17)

The Secretary of Transportation should ensure that collaboration occurs between the SBIR program office and the Office of Inspector General to establish fraud indicators and provide required training on fraud, waste, and abuse for SBIR awardees. (Recommendation 18)

The Administrator of the Environmental Protection Agency should ensure that the SBIR program collects the required certifications from new SBIR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive. (Recommendation 19)

The Administrator of the Environmental Protection Agency should ensure that collaboration occurs between the SBIR program office and the Office of Inspector General to establish fraud indicators and train applicants. (Recommendation 20)

The Director of the National Science Foundation should take appropriate steps to ensure that the SBIR/STTR program collects the required certifications from new SBIR and STTR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive. (Recommendation 21)

Agency Comments and Our Evaluation

We provided a draft of this product to SBA and the 11 participating agencies for review and comment. USDA, SBA, and NASA did not provide written comments on this report. Written comments from the other nine agencies are reproduced in appendices II through X. DOE and HHS (NIH) also provided technical comments, which we incorporated as appropriate.

Commerce, Education, DOE, HHS, DHS, DOT, EPA, and NSF concurred with our recommendations. DOD concurred with four recommendations, partially concurred with one, and did not concur with two. USDA did not state whether it concurred with our recommendation that its SBIR program collect the required certifications from new SBIR awardees, beginning with future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive.

In some cases, agencies' written comments described planned or completed actions to address our recommendations. Except as discussed below, these actions address the intent of our recommendations. We anticipate updating GAO's database of open recommendations once we receive full documentation of these agencies' actions.

DOD concurred with four of our seven recommendations, did not concur with one recommendation to the Army, and partially concurred or did not concur with our two recommendations to the Navy.

- DOD did not concur with our recommendation that the Secretary of the Army should ensure that the SBIR/STTR program provides information on its program website on how to report suspected fraud, waste, and abuse to the Army OIG or other designated authorities. In particular, DOD stated in its letter that the Army had already updated its website with such information. However, as of June 2021, Army's website linked to an SBA website with information on reporting fraud, waste, and abuse in SBA programs as opposed to an Army website with information on reporting fraud, waste, and abuse to the Army OIG. We maintain that the Army needs to ensure that its website has a link for reporting suspected fraud, waste, and abuse to the Army OIG via an online tool or hotline to ensure that the Army meets this requirement in the SBIR/STTR Policy Directive.
- DOD partially concurred with our recommendation that the Navy SBIR/STTR program collect the required certifications from new SBIR and STTR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive. In particular, DOD's letter stated that the Navy did not consider the differences we identified to be material. We considered differences from the SBIR/STTR Policy Directive's language to be material if they could complicate future efforts to hold individuals and businesses accountable for misrepresentations of their eligibility for SBIR and STTR awards and funding. Despite its partial concurrence, the Navy stated that it addressed the material differences we identified in their Funding Agreement and their Life Cycle Certification in April 2021 and incorporated the changes in the SBIR and STTR award solicitation that DOD opened for applications on May 19, 2021. Therefore, we will close this recommendation as implemented once the Navy provides complete documentation of these changes.
- DOD did not concur with our recommendation that the Navy SBIR/STTR program track referrals to the Navy OIG or NCIS. DOD's letter stated that the Navy was in compliance with this requirement because the Navy OIG and NCIS track such referrals. However, the requirement in the SBIR/STTR Policy Directive is for agencies to track the referrals, not for the agency OIGs or military investigative offices to do so. By tracking referrals, agency program offices, which are the

first line of defense against fraud, waste, and abuse in the SBIR/STTR program, can help better assess the risk of granting funds to small businesses that were previously referred for investigation. In addition, by not fully implementing this requirement, the Navy risks not having a systematic approach for referring fraud, waste, and abuse allegations.

In concurring with our recommendations that the Army and Air Force SBIR/STTR programs have, and communicate, a policy for reporting suspected fraud, waste, or abuse to the OIG or other designated authorities, DOD stated that there is no need for a separate policy since all DOD employees are required to report fraud, waste, and abuse under existing regulations. However, we did not identify requirements in the regulations cited by DOD that matched the SBIR/STTR Policy Directive's requirement for a policy. For example, we did not find language in DOD's Joint Ethics Regulation requiring all DOD employees—military, civilian, and contractor—to report fraud, waste, and abuse in DOD programs to the appropriate DOD or military department OIG or other designated authorities. Therefore, we maintain our recommendation that the Secretaries of the Army and Air Force should ensure that their SBIR/STTR programs have, and communicate, a policy for reporting suspected fraud, waste, or abuse.

DOD suggested in its comments that, to ensure that DOD agencies make appropriate updates, such as to certifications, SBA should include a summary of changes in future updates of the SBIR/STTR Policy Directive. We did not make such a recommendation to SBA because we considered agencies to have responsibility for reviewing changes to the SBIR/STTR Policy Directive and making any necessary changes to their programs. In addition, SBA's changes to the SBIR/STTR Policy Directive in May 2019, which included changes to the certifications language, were included in an April 2019 *Federal Register* Notice.²⁹

We are sending copies of this report to the appropriate congressional committees; the Secretaries of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Homeland Security, and Transportation; the Administrators of the SBA, EPA, and NASA; the Director of the National Science Foundation; and other interested parties.

²⁹Small Business Administration, Small Business Innovation Research Program and Small Business Technology Transfer Program Policy Directive, 84 Fed. Reg. 12794 (April 2, 2019)

In addition, the report is available at no charge on the GAO website at <https://www.gao.gov>.

If you or your staff members have any questions about this report, please contact me at (202) 512-6888 or WrightC@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report.

A handwritten signature in black ink that reads "Candice N. Wright". The signature is written in a cursive, flowing style.

Candice N. Wright
Acting Director
Science, Technology Assessment, and Analytics

List of Committees

The Honorable Benjamin L. Cardin
Chairman
The Honorable Rand Paul
Ranking Member
Committee on Small Business and Entrepreneurship
United States Senate

The Honorable Eddie Bernice Johnson
Chairwoman
The Honorable Frank D. Lucas
Ranking Member
Committee on Science, Space, and Technology
House of Representatives

The Honorable Nydia Velázquez
Chairwoman
The Honorable Blaine Luetkemeyer
Ranking Member
Committee on Small Business
House of Representatives

Appendix I: Agency Implementation of SBIR and STTR Fraud, Waste, and Abuse Prevention Requirements

The Small Business Act, as amended, required the Small Business Administration (SBA) to add fraud, waste, and abuse prevention requirements to the policy directives for agencies to implement.¹ Table 6 contains our assessment of each agency's implementation of the requirements as of April 2021 based on documentation provided by the agencies and interviews with agency officials. We focused our review on the actions agencies had taken to implement the requirement.

¹15 U.S.C. § 638b(a); Small Business Administration's SBIR/STTR Policy Directive (Effective May 2, 2019)

Appendix I: Agency Implementation of SBIR and STTR
 Fraud, Waste, and Abuse Prevention Requirements

Table 6: Status of Agencies' Implementation of Fraud, Waste, and Abuse Prevention Requirements in the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs

Agency Component	i. Require certification from awardees	ii. Include how to report fraud, waste, and abuse on website and solicitation	iii. Designate liaison for OIG and Suspension and Debarment Official (SDO)	iv. List examples of successful fraud prosecutions on website	v. Have a written policy to notify OIG of suspected fraud, waste, and abuse	vi. Develop templates for referrals to OIG and SDO	vii. Ensure compliance with eligibility requirements and funding agreements	viii. Coordinate with Office of Inspector General (OIG) on fraud, waste, and abuse efforts	ix. Develop policies to avoid funding essentially equivalent work	x. Consider enhanced reporting requirements
Department of Agriculture	▶	●	●	●	●	●	●	●	●	●
Department of Commerce	▶	●	●	●	●	●	●	●	●	●
NIST	●	●	●	●	●	●	●	●	●	●
NOAA	▶	●	●	●	●	●	●	●	●	●
Department of Defense	▶	●	●	●	▶	▶	●	●	●	●
Air Force	▶	●	●	●	▶	▶	●	●	●	●
Army	●	●	●	●	▶	●	●	●	●	●
Navy	▶	●	●	●	●	▶	●	●	●	●
Department of Education	▶	●	●	●	●	●	●	●	●	●
Department of Energy	▶	●	●	●	●	▶	●	●	●	●
Advanced Research Projects Agency-Energy	▶	●	●	●	●	●	●	●	●	●

**Appendix I: Agency Implementation of SBIR and STTR
Fraud, Waste, and Abuse Prevention Requirements**

Agency Component	i. Require certification from awardees	ii. Include how to report fraud, waste, and abuse on website and solicitation	iii. Designate liaison for OIG and Suspension and Debarment Official (SDO)	iv. List examples of successful fraud prosecutions on website	v. Have a written policy to notify OIG of suspected fraud, waste, and abuse	vi. Develop templates for referrals to OIG and SDO	vii. Ensure compliance with eligibility requirements and funding agreements	viii. Coordinate with Office of Inspector General (OIG) on fraud, waste, and abuse efforts	ix. Develop policies to avoid funding essentially equivalent work	x. Consider enhanced reporting requirements
Office of Science	⦿	●	●	●	●	⦿	●	●	●	●
Department of Health and Human Services- National Institutes of Health	⦿	●	●	●	●	●	●	●	●	●
Department of Homeland Security	⦿	●	●	●	●	●	●	⦿	●	●
Department of Transportation	⦿	●	●	●	●	●	●	⦿	●	●
EPA	⦿	●	●	●	●	●	●	⦿	●	●
NASA	●	●	●	●	●	●	●	●	●	●
National Science Foundation	⦿	●	●	●	●	●	●	●	●	●

Legend: ● = fully implemented requirement

⦿ = partially implemented requirement

Source: GAO analysis of agency data | GAO-21-413

Appendix II: Comments from the Department of Commerce



UNITED STATES DEPARTMENT OF COMMERCE
Office of the Chief Financial Officer
and Assistant Secretary for Administration
Washington, D.C. 20230

June 4, 2021

Ms. Candice N. Wright
Acting Director
Science, Technology Assessment, and Analytics
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Ms. Wright:

Thank you for the opportunity to review and comment on the Government Accountability Office's (GAO) draft report entitled *Small Business Innovation Research: Agencies Need to Fully Implement Requirements for Managing Fraud, Waste, and Abuse* (GAO-21-413).

The Department of Commerce agrees with GAO's recommendation regarding the National Oceanic and Atmospheric Administration's collection of required certifications from new Small Business Innovation Research awardees, beginning in future funding opportunity announcements. Enclosed is our response to the draft report.

Should you have any questions, please contact MaryAnn Mausser, GAO Liaison, at (202) 482-8120 or mmausser@doc.gov.

Sincerely,

WYNN COGGINS

Digitally signed by WYNN
COGGINS
Date: 2021.06.07 09:06:09 -0400

Wynn W. Coggins
Acting Chief Financial Officer
and Assistant Secretary for Administration

Enclosure

Department of Commerce
National Oceanic and Atmospheric Administration
Response to the GAO Draft Report Entitled
*Small Business Innovation Research: Agencies Need to Fully
Implement Requirements for Managing Fraud, Waste, and Abuse*
(GAO-21-413, June 2021)

General Comments

The Department of Commerce's National Oceanic and Atmospheric Administration (NOAA) appreciates the opportunity to review the Government Accountability Office's (GAO) report on fraud, waste, and abuse in Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs. NOAA understands the importance of GAO conducting this study every 4 years to ensure all 11 Federal participating agencies fully implement requirements for managing fraud, waste, and abuse. Also, NOAA agrees that GAO has provided a thorough assessment.

NOAA Response to GAO Recommendations

The draft GAO report made one recommendation pertaining to NOAA:

Recommendation 2: "The Administrator of NOAA should ensure that the SBIR program collects the required certifications from new SBIR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive."

NOAA Response: NOAA agrees with this recommendation and has applied corrective action. The correct certification language is in place for upcoming funding opportunity announcements and applied to the NOAA SBIR Program website. Also, NOAA is currently collecting all re-certifications from past and present SBIR awardees. NOAA will continue to follow the GAO recommendation to ensure there are no material differences from NOAA certification forms and the language in the SBIR/STTR Policy Directive.

Recommended Changes for Factual/Technical Information

None.

Editorial Comments

None.

Appendix III: Comments from the Department of Defense



RESEARCH
AND ENGINEERING

OFFICE OF THE UNDER SECRETARY OF DEFENSE
3030 DEFENSE PENTAGON
WASHINGTON, DC 20301-3030

Ms. Candice Wright
Acting Director, Science, Technology Assessment, and Analytics
U.S. Government Accountability Office
441 G Street, N.W.
Washington, DC 20548

Dear Ms. Wright:

The Department of Defense (DoD) has reviewed the Government Accountability Office (GAO) Draft Report, GAO-21-413, "SMALL BUSINESS INNOVATION RESEARCH: Agencies Need to Fully Implement Requirements for Managing Fraud, Waste, and Abuse" dated June 2021, and submits the following comments for consideration.

- The Small Business and Technology Partnerships (SBTP) office, which oversees the DoD Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) programs, implemented a process, effective December 8, 2020, requiring all small business concerns (SBCs) that submit a proposal in response to an SBIR or STTR topic certify they have reviewed the U.S. Small Business Administration's (SBA's) fraud, waste, and abuse tutorial on the sbir.gov website. The SBCs can access the tutorial by clicking a link in the DoD SBIR/STTR Innovation Portal (DSIP), which captures and records the date and time the tutorial was accessed, and generates a certificate that becomes Volume 6 of an SBC's proposal submission package. The certification remains valid for one year. This link in the DSIP is only accessible by an SBC with a DISP account during the proposal submission process.
- The SBTP office intends to implement a fraud, waste, and abuse module in the DSIP, but has not yet determined the required features and capabilities, or a timeline for implementation of this module.
- The SBTP office does not obtain information about emerging fraud schemes and/or promising practices and tools for detecting or addressing fraud, waste, and abuse in the SBIR/STTR programs. The SBTP office has recently established a contact in the DoD Criminal Investigative Service (DCIS) to facilitate greater communication in this area, and to serve as the central contact for all DoD SBIR/STTR Program Offices to refer suspected fraud, waste, and abuse within the programs. The DCIS provided a briefing to the DoD SBIR/STTR Program Managers at the monthly meeting held in May 2021.
- The SBA could have a greater role in compiling and disseminating information to the SBIR/STTR Program Offices across the Federal ecosystem.

In addition, during the exit conference with the GAO, the following items were discussed:

- The SBTP office stated that it would recommend to the SBA that a "Summary of Changes" be included in future updates of the SBA SBIR/STTR Policy Directive to

**Appendix III: Comments from the Department
of Defense**

alert agencies of required updates. This action would ensure all DoD agencies make appropriate updates, such as the funding certifications.

- The SBTP office stated that it would update its website to provide information on how to report fraud, waste, and abuse to the DoD Inspector General and link to the SBA's website that lists successful prosecution of SBIR/STTR fraud cases. This action was completed on April 21, 2021.
- The SBTP office stated that there is no need for the Army, Navy, Air Force, or SBTP office to issue a separate policy on reporting fraud, waste, and abuse, for the SBIR/STTR programs since all DoD employees are already required to do so per 18 C.F.R. § 3c.3, 5 CFR § 2635.101, and DoD 5500.07R (the DoD Joint Ethics Regulation (JER)).

With regard to the specific recommendations made for the Army, the Navy, and the Air Force the DoD submits the following and attached responses.

- Recommendation 3: The Secretary of the Army should ensure that the SBIR/STTR program has, and communicates, a policy for reporting suspected fraud, waste, or abuse to the Army Office of Inspector General or other designated authorities.

Response: Concur.

- Recommendation 4: The Secretary of the Army should ensure that the SBIR/STTR program provides information on its program website on how to report suspected fraud, waste, and abuse to the Army Office of Inspector General or other designated authorities.

Response: Non-Concur. After the GAO Exit Conference on April 1, 2021, the Army updated its SBIR/STTR website (<https://www.armysbir.army.mil>) with information on how to report suspected fraud, waste, and abuse to the Army Office of Inspector General using an online tool or via the Office of the Inspector General hotline.

- Recommendation 5: The Secretary of the Navy should ensure that the SBIR/STTR program collects the required certification from new SBIR and STTR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive.

Response: Partially Concur. The Navy does not consider the differences between the language in its current certifications and the model certification language in the SBIR/STTR Policy Directive to be material. In comparing the Navy Funding and Life Cycle Certifications to the model language provided by the SBA, the Navy certification reflects the following minor edits:

1. Combined separate SBIR and STTR Certifications into a single SBIR/STTR Certification;
2. Added "(based on a 40 hour workweek)" to clarify the definition of full-time; and
3. Added "this Agency" to clarify where funding was received.

Appendix III: Comments from the Department of Defense

Likewise, in comparing the Navy Venture Capital Certification to the model language provided by the SBA, the Navy noted four capitalization discrepancies, which it corrected in the Navy certification.

- Recommendation 6: The Secretary of the Navy should ensure that the SBIR/STTR program tracks referrals to the Office of Inspector General or Navy Criminal Investigative Service.

Response: Non-Concur. As the agency (as defined by section 3(o) of the SBIR/STTR Policy Directive), the Department of the Navy is in compliance with the requirement, which the Navy meets through the Navy Inspector General (NAVINSGEN) and Navy Criminal Investigative Service (NCIS) fraud, waste, and abuse tracking systems. The GAO's focus on requiring the Navy SBIR/STTR Program Office to track fraud, waste, and abuse referrals is misplaced, and would require the Department of the Navy to undertake a duplicative tracking effort.

- Recommendation 7: The Secretary of the Air Force should ensure that the SBIR/STTR program collects the required certification from new SBIR and STTR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive.

Response: Concur. See attached.

- Recommendation 8: The Secretary of the Air Force should ensure that the SBIR/STTR program has, and communicates, a policy for reporting suspected fraud, waste, or abuse to the Air Force Office of Inspector General or other designated authorities.

Response: Concur. See attached.

- Recommendation 9: The Secretary of the Air Force should ensure that the SBIR/STTR program tracks referrals to the Air Force Office of Inspector General and the suspension and debarment of officials.

Response: Concur. See attached.

Thank you for the opportunity to provide comments to the draft report.

Sincerely,

CELIS.SUSAN.R.
1229475394

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Susan Celis
Acting Director, Small Business and
Technology Partnerships

**Appendix III: Comments from the Department
of Defense**



DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY
ACQUISITION LOGISTICS AND TECHNOLOGY
103 ARMY PENTAGON
WASHINGTON, DC 20310-0103

SAAL-ZT

MEMORANDUM FOR RECORD

SUBJECT: Response Regarding GAO Draft Report GAO-21-413 (Small Business Innovation Research: Some Agencies Need to Implement Requirements for Managing Fraud, Waste and Abuse)

The Army provides the following responses regarding Government Accountability Office (GAO) recommendations for draft report GAO-21-413 (GAO Code 104353):

RECOMMENDATION 3: The Secretary of the Army should ensure that the SBIR/STTR program has, and communicates, a policy for reporting suspected, fraud, waste, or abuse to the Army Office of Inspector General or other designated authorities.

DoD RESPONSE: Concur.

RECOMMENDATION 4: The Secretary of the Army should ensure that the SBIR/STTR program provides information on its program website on how to report suspected fraud, waste, and abuse to the Army Office of Inspector General or other designated authorities.

DoD RESPONSE: Non Concur. After the GAO Exit Conference on 1 April 2021, the Army updated the SBIR/STTR program website (<https://www.armysbir.army.mil>) with information on how to report suspected fraud, waste, and abuse to the Army Office of Inspector General using an online tool or via the Office of the Inspector General hotline.

Any questions can be directed to the undersigned.

WILLIS.MATTHEW.P.1386806400 Digitally signed by
WILLIS.MATTHEW.P.1386806400
Date: 2021.05.17 15:33:52 -04'00'

Dr. Matt Willis
Director, Army Applied SBIR Program

**Appendix III: Comments from the Department
of Defense**



**DEPARTMENT OF THE AIR FORCE
WASHINGTON, DC**

OFFICE OF THE ASSISTANT SECRETARY

4/6/2021

MEMORANDUM FOR OUSD(R&E)

SUBJECT: Air Force Response to GAO-21-413 Draft Report, "SMALL BUSINESS INNOVATION RESEARCH: Agencies Need to Fully Implement Requirements for Managing Fraud, Waste, and Abuse" (Project Code 104353)

This is the Department of the Air Force response to the GAO Draft Report, "SMALL BUSINESS INNOVATION RESEARCH: Agencies Need to Fully Implement Requirements for Managing Fraud, Waste, and Abuse" (Project Code 104353). The Department of the Air Force concurs with the report as written and welcomes the opportunity to provide comments.

Attached is the Department of the Air Force proposed response to the subject report recommendations. The SAF/AQ point of contact is Maj Tan Van, (571) 256-0312, or via email at tan.van.1@us.af.mil. The SAF/SB points of contact are Mr. David Sikora, (202) 404-6240, or via email at david.sikora.2@us.af.mil, and Mr. Max Kidalov, (202) 406-0205, or via email at maxim.kidalov@us.af.mil.

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Date: 2021.05.27 13:53:26 -04'00'

Scott A. Kiser
Director, Small Business Programs
Department of the Air Force

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97684
Date: 2021.06.04 14:49:52 -04'00'

Darlene J. Costello
Acting

Attachment:
Department of Defense Comments to the GAO Recommendations 7 through 9

GAO DRAFT REPORT DATED JUNE, 2021
GAO-21-413 (GAO CODE 104353)

“SMALL BUSINESS INNOVATION RESEARCH: Agencies Need to Fully Implement
Requirements for Managing Fraud, Waste, and Abuse”

DEPARTMENT OF DEFENSE COMMENTS
TO THE GAO RECOMMENDATION

RECOMMENDATION 7: The Secretary of the Air Force should ensure that the SBIR/STTR program collects the required certifications from new SBIR and STTR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive.

AIR FORCE RESPONSE: Concur with Recommendation 7. The Director of Contracting for the AFWERX SBIR/STTR Program Office has taken corrective action by directing that any future solicitations and awards issued by the Program Office contain certifications language that is consistent with the SBIR/STTR Policy Directive and provide specific timing, means, and appropriate points of contact for collection of certifications during the SBIR/STTR proposal submission and award lifecycle. Additionally, within 180 days, active SBIR/STTR awards administered by the AFWERX SBIR/STTR Program Office will be amended to the extent necessary to provide for correction to submission and collection of certifications as required by the SBIR/STTR Policy Directive.

Further, within one year, the Department of the Air Force will promulgate a policy for any Department of the Air Force organization making or administering SBIR/STTR awards to prescribe and collect certifications as required by the SBIR/STTR Policy Directive.

RECOMMENDATION 8: The Secretary of the Air Force should ensure that the SBIR/STTR program has, and communicates, a policy for reporting suspected, fraud, waste, or abuse to the Air Force Office of Inspector General or other designated authorities.

AIR FORCE RESPONSE: Concur with Recommendation 8. Within one year, the Department of the Air Force will promulgate a policy on reporting suspected, fraud, waste, or abuse specifically in SBIR and STTR Programs to the Air Force Office of Inspector General, Air Force Office of Special Investigations, or other designated authorities.

Currently, the Department already has general Fraud, Waste, and Abuse (FW&A) policies and procedures in place that are applicable to SBIR and STTR Programs. Executive Order 12731 requires all Federal employees to “disclose waste, fraud, abuse, and corruption to appropriate authorities.” Additionally, there are training and reporting policies outlined in Air Force Instruction (AFI) 51-1101, *The Air Force Procurement Fraud Remedies Program* (19 October 2017).

Appendix III: Comments from the Department of Defense

The AFWERX SBIR/STTR Program Office currently has an active communications effort for its FW&A initiatives, training, and reporting on the program website: <https://www.afsbirsttr.af.mil/About/Fraud-Waste-and-Abuse-Prevention/>. The Program Office website includes extensive training on compliance and FWA matters: <https://www.afsbirsttr.af.mil/Portals/60/Pages/Phase%20II/SBIR%20Program%20Training%20for%20SBs%200318.pdf>. Suspected fraud on a contract within this program can be answered by email to: sbrk.sprints@us.af.mil, and anonymous tips can be submitted through the Air Force Office of Special Investigations (AFOSI) tips hotline at: <https://www.tipsubmit.com/WebTips.aspx?AgencyID=1111>. The Air Force SBIR/STTR Program funds AFOSI support to investigate FW&A in the Department of the Air Force SBIR and STTR Programs.

In terms of external reporting, the DoD Office of Small Business and Technology Partnerships requires all companies that submit a Phase I or Direct to Phase II proposal to complete and certify to FW&A training. This training is an annual DoD requirement and was actually an initiative that was created and first implemented by the Air Force. Finally, every AFWERX SBIR/STTR Program Office solicitation provides contact information for the DoD Inspector General hotline.

RECOMMENDATION 9: The Secretary of the Air Force should ensure that the SBIR/STTR program tracks referrals to the Air Force Office of Inspector General and the suspension and debarment of officials.

AIR FORCE RESPONSE: Concur with Recommendation 9. Within one year, the Department of the Air Force will promulgate a policy on tracking referrals to the Air Force Office of Inspector General, Air Force Office of Special Investigations, and suspension and debarment officials made by any Department of the Air Force organizations making or administering SBIR/STTR awards. Additionally, this tracking will be subject to any applicable limitations for anonymity, confidentiality, and law enforcement sensitivity of complaints and investigations.

Appendix IV: Comments from the Department of Education



550 12th Street SW
Washington, DC 20202

May 27, 2021

Ms. Candice N. Wright
Acting Director
Science, Technology Assessment, and Analytics
Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Ms. Wright:

Thank you for the opportunity to respond to the Government Accountability Office (GAO) draft report titled *Small Business Innovation Research Programs: Agencies Need to Fully Implement Requirements for Managing Fraud, Waste, and Abuse* (GAO-21-413). The GAO draft report found that the U.S. Department of Education fully implemented nine of the 10 minimum requirements for managing fraud, waste, and abuse in the Small Business Innovation Research (SBIR) program and partially implemented the remaining requirement.

In its conclusions, GAO recommended that the Secretary of Education ensure that the SBIR program collects the required certifications from new SBIR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive. We concur with this recommendation and have already ensured that our fiscal year 2021 awards include this language.

We appreciate GAO's responsiveness to the comments and additional information we provided at the exit conference.

Thank you for the opportunity to respond to the GAO draft report.

Sincerely,

Mark Schneider
Digitally signed by Mark Schneider
Date: 2021.05.27 11:59:43 -0400

Mark Schneider
Director

Appendix V: Comments from the Department of Energy



Department of Energy
Office of Science
Washington, DC 20585
June 3, 2021

Office of the Director

Ms. Candice N. Wright
Acting Director
Science, Technology Assessments, and Analytics
U.S. Government Accountability Office
441 G Street, N.W.
Washington, DC 20548

Dear Ms. Wright:

The Department of Energy (DOE) appreciates the opportunity to provide a response to the Government Accountability Office's (GAO) draft report titled, *Small Business Innovation Research: Agencies Need to Fully Implement Requirements for Managing Fraud, Waste, and Abuse (GAO-21-413)*.

The draft report contained a total of twenty-one recommendations, of which GAO directed three recommendations to DOE. DOE concurs with GAO's recommendations.

The attached provides DOE's response to the recommendations as well as technical comments on the report. GAO should direct any questions to Manny Oliver, Office of Science via e-mail at manny.oliver@science.doe.gov.

Sincerely,

A handwritten signature in black ink that reads "J. Stephen Binkley".

J. Stephen Binkley
Acting Director
Office of Science

Attachments:
DOE's Response to Recommendations
DOE Technical Comments

**Department of Energy's Response to Recommendations in the GAO Draft Report
*Small Business Innovation Research: Agencies Need to Fully Implement
Requirements for Managing Fraud, Waste, and Abuse (GAO-21-413)***

Recommendation 11: The Secretary of Energy should ensure that ARPA-E's SBIR/STTR program collects the required certifications from SBIR and STTR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive.

Management Response: DOE concurs with the recommendation. ARPA-E has updated its SBIR Funding Agreement Certification and the SBIR Lifecycle Certification to add the four additional words GAO noted in order to mirror the Small Business Association's Model Certifications Language in the SBIR/STTR Policy Directive. ARPA-E is implementing the updated SBIR certifications in all new SBIR/STTR Funding Opportunity Announcements and awards.

Estimated Completion Date: Completed.

Recommendation 12: The Secretary of Energy should ensure that the Office of Science's SBIR/STTR program collects the required certifications from SBIR and STTR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive.

Management Response: DOE concurs with the recommendation. The Office of SBIR/STTR Programs in the Office of Science has updated the SBIR Funding Agreement Certification-Time of Award and the SBIR Lifecycle Certification with the language from the October 1, 2020, version of the SBIR/STTR Program Policy Directive.

Estimated Completion Date: Completed on April 2, 2021.

Recommendation 13: The Secretary of Energy should ensure that the Office of Science's SBIR/STTR program tracks SBIR and STTR fraud, waste, and abuse referrals to the Office of Inspector General.

Management Response: DOE concurs with the recommendation. The Office of SBIR/STTR Programs in the Office of Science has created a folder and tracking sheet that the office will use to track fraud, waste and abuse referrals that the SBIR/STTR Office submits to the Office of Inspector General.

Estimated Completion Date: Completed on May 6, 2021.

Appendix VI: Comments from the Department of Health and Human Services



DEPARTMENT OF HEALTH & HUMAN SERVICES

OFFICE OF THE SECRETARY

Assistant Secretary for Legislation
Washington, DC 20201

June 3, 2021

Candice N. Wright
Acting Director
Science, Technology Assessment, and Analytics (STAA)
U.S. Government Accountability Office
441 G Street NW
Washington, DC 20548

Dear Ms. Wright:

Attached are comments on the U.S. Government Accountability Office's (GAO) report entitled, "*Small Business Innovation Research: Some Agencies Need to Implement Requirements for Managing Fraud, Waste, and Abuse*" (Job code 104353/GAO-21-413).

The Department appreciates the opportunity to review this report prior to publication.

Sincerely,

Rose M.
Sullivan -S

Digitally signed by Rose
M. Sullivan -S
Date: 2021.06.03
22:26:18 -04'00'

Rose Sullivan
Acting, Assistant Secretary for Legislation
Principal Deputy Assistant Secretary for Legislation

Attachment

**Appendix VI: Comments from the Department
of Health and Human Services**

GENERAL COMMENTS FROM THE DEPARTMENT OF HEALTH & HUMAN SERVICES ON THE GOVERNMENT ACCOUNTABILITY OFFICE'S DRAFT REPORT ENTITLED – SMALL BUSINESS INNOVATION RESEARCH: AGENCIES NEED TO FULLY IMPLEMENT REQUIREMENTS FOR MANAGING FRAUD, WASTE, AND ABUSE (GAO-21-413)

The U.S. Department of Health & Human Services (HHS) appreciates the opportunity from the Government Accountability Office (GAO) to review and comment on this draft report.

GAO Recommendation 14:

The Secretary of Health and Human Services should ensure that the National Institutes of Health's SBIR/STTR program collects the required certifications from new SBIR and STTR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive.

NIH Response:

NIH concurs with Recommendation 14, and NIH is in the process of updating the certification forms to the language in the current SBIR/STTR Policy Directive as part of a comprehensive application forms package update to implement forthcoming federal requirements, including the Unique Entity Identifier. NIH will implement this recommendation as part of forthcoming Forms-G application packages, estimated for October 2021, effective for all new applications submitted for due dates on/after January 25, 2022.

Appendix VII: Comments from the Department of Homeland Security

U.S. Department of Homeland Security
Washington, DC 20528



**Homeland
Security**

June 2, 2021

Candice N. Wright
Acting Director, Science, Technology Assessment, and Analytics
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Re: Management Response to Draft Report GAO-21-413, "SMALL BUSINESS INNOVATION RESEARCH: Agencies Need to Fully Implement Requirements for Managing Fraud, Waste, and Abuse"

Dear Ms. Wright:

Thank you for the opportunity to comment on this draft report. The U.S. Department of Homeland Security (DHS or the Department) appreciates the U.S. Government Accountability Office's (GAO) work in planning and conducting its review and issuing this report.

The Department is pleased to note GAO's recognition that DHS has fully implemented eight of the Small Business Administration's (SBA) minimum requirements for preventing fraud, waste, and abuse in Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs and partially implemented the two other requirements.

DHS remains committed to continuing practices to mitigate fraud risks and monitor awardees' adherence to SBIR/STTR program requirements and associated funding agreements, such as utilizing monthly reports from awardees to maintain awareness of research progress and spending. The Department will also continue to collaborate with the Office of the Inspector General (OIG) to ensure that fraud indicators are used to guide searches that help to verify applicant eligibility, and will provide training to DHS SBIR awardees as another means of deterring fraud, waste, and abuse.

The draft report contained 21 recommendations, including two for DHS with which the Department concurs. Attached find our detailed response to each recommendation. DHS

**Appendix VII: Comments from the Department
of Homeland Security**

previously submitted technical comments under a separate cover for GAO's consideration.

Again, thank you for the opportunity to review and comment on this draft report. Please feel free to contact me if you have any questions. We look forward to working with you again in the future.

Sincerely,

**JIM H
CRUMPACKER**

Digitally signed by JIM H
CRUMPACKER
Date: 2021.06.02 15:26:04
-04'00'

JIM H. CRUMPACKER, CIA, CFE
Director
Departmental GAO-OIG Liaison Office

Attachment

**Attachment: Management Response to Recommendations
Contained in OIG-21-413**

GAO recommended the Secretary of the Homeland Security:

Recommendation 15: Ensure that the SBIR program collects the required certifications from new SBIR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive.

Response: Concur. On May 12, 2021, the DHS SBIR Program, in coordination with the DHS Office of the Chief Procurement Officer, updated the language for future awards to use the certification language in the SBA's SBIR and STTR Program Policy Directive. A copy of this update was provided to GAO under a separate cover.

We request that the GAO consider this recommendation resolved and closed, as implemented.

Recommendation 16: Ensure that collaboration occurs between the SBIR program office and the Office of Inspector General to establish fraud indicators and train applicants.

Response: Concur. The Department currently partners with OIG to provide training to awardees, and the DHS SBIR Program will continue to collaborate with OIG to update and identify its fraud indicators. Additionally, the DHS SBIR Program is working with OIG to develop a webinar on fraud, waste, and abuse. Future SBIR solicitations will include directions to view the webinar, once it is complete, as part of preparations for submitting a proposal. Estimated Completion Date: January 31, 2022.

Appendix VIII: Comments from the Department of Transportation



**U.S. Department of
Transportation**
Office of the Secretary
of Transportation

Assistant Secretary
for Administration

1200 New Jersey Avenue, SE
Washington, DC 20590

June 2, 2021

Candace N. Wright
Acting Director, Science, Technology Assessment and Analytics
U.S. Government Accountability Office (GAO)
441 G Street NW
Washington, D.C. 20548

Dear Ms. Wright:

The Department of Transportation (DOT) works diligently to mitigate the risk of fraud, waste, and abuse in its Small Business Innovation Research (SBIR) program by adhering to Small Business Administration (SBA) guidance and partnering with the agency's Office of Inspector General (OIG). DOT has long coordinated with the DOT OIG at a regional level on training material, and on SBIR questions and inquiries. We agree with GAO's position that a participating agency and its OIG bear a shared responsibility for addressing fraud, waste, and abuse.

DOT continues to improve its fraud, waste, and abuse prevention measures. Specifically,

- DOT acted quickly to update the awardee certification language in new SBIR contracts, as required by the SBIR/Small Business Technology Transfer (STTR) Policy Directive. Within one week of learning of the update, new SBIR contracts included the updated certification language and future contracts and funding announcements will do so.
- DOT proactively adjusted how we coordinate with OIG from a regional to a Headquarters approach. This allows for a more direct communication, collaboration, and sharing of information. Work is already underway with DOT and OIG to develop fraud indicators and conduct training for new awardees.

Upon review of the GAO draft report, DOT concurs with GAO's two recommendations to: (1) collect the required certifications from new SBIR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive and (2) ensure collaboration between the SBIR program office and the OIG to establish fraud indicators and provide the required training for SBIR awardees. DOT will provide a detailed response to the recommendations within 180 days of the final report's issuance.

DOT appreciates the opportunity to respond to the GAO draft report. Please contact Madeline M. Chulumovich, Director of Audit Relations and Program Improvement, at (202) 366-6512 with any questions or if GAO would like additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "Philip A. McNamara".

Philip A. McNamara
Assistant Secretary for Administration

Appendix IX: Comments from the Environmental Protection Agency



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Washington, DC 20460

May 25 2021

OFFICE OF
RESEARCH AND DEVELOPMENT

Ms. Candice N. Wright
Acting Director, Science, Technology Assessment, and Analytics
U.S. General Accountability Office
Washington, D.C. 20548

Dear Ms. Wright:

Thank you for the opportunity to review and comment on GAO's draft report entitled *SBIR: Agencies Need to Fully Implement Requirements for Managing Fraud, Waste, and Abuse* (GAO-21-413).

EPA responses to GAO-21-413 recommendations are provided below:

Recommendation 19: The Environmental Protection Agency Administrator should ensure that the SBIR program collects the required certifications from new SBIR awardees, beginning in future funding opportunity announcements, without material differences from the language in the SBIR/STTR Policy Directive.

Response: EPA agrees with this recommendation and has updated certification language to reflect the SBIR/STTR policy directive. This recommendation will be completed in June 2021, the beginning of the next solicitation cycle.

Recommendation 20: The Environmental Protection Agency Administrator should ensure that collaboration occurs between the SBIR program office and the Office of Inspector General to establish fraud indicators and train applicants.

Response: EPA agrees with this recommendation and will work to collaborate with the Office of the Inspector General to review SBIR program fraud indicators and modify materials currently used for training applicants as necessary.

Thank you again for the opportunity to review and respond to the GAO's draft report, *SBIR: Agencies Need to Fully Implement Requirements for Managing Fraud, Waste, and Abuse*. If additional information is needed, please contact the Office of Resource Management's Kelly van Bronkhorst at 202-566-2907 or the Office of Science Advisor, Policy and Engagement's Stacy Rabkin at 202-564-6519.

Sincerely,

A handwritten signature in black ink, appearing to read "Jennifer Orme-Zavaleta".

Jennifer Orme-Zavaleta, Ph.D.
Principle Deputy Assistant Administrator and EPA
Science Advisor

Appendix X: Comments from the National Science Foundation



National Science Foundation
Office of the Director

June 3, 2021

Candice N. Wright
Acting Director
Science, Technology Assessment, and Analytics
U.S. Government Accountability Office
441 G Street, NW
Washington, D.C. 20548

Dear Ms. Wright:

Thank you for the opportunity to review and provide comments on the Government Accountability Office (GAO) draft report, *SMALL BUSINESS INNOVATION RESEARCH: Agencies Need to Fully Implement Requirements for Managing Fraud, Waste, and Abuse* (GAO-21-413). The National Science Foundation (NSF) values the GAO staff's professionalism and many constructive interactions during this GAO engagement.

NSF appreciates GAO's acknowledgement of agency compliance with nine of the ten requirements related to managing fraud, waste, and abuse. As detailed in the report, the Foundation has implemented various additional steps throughout our proposal review and award management process to identify and prevent fraud, waste, and abuse by SBIR and STTR applicants and awardees.

NSF concurs with the recommendation made by GAO for additional actions the agency should take to update certification language during the proposal and award process, such that the exact language provided by the Small Business Administration is employed for all SBIR and STTR projects.

Again, thank you for the opportunity to review and comment on this draft report. Please feel free to contact Veronica Shelley at vshelley@nsf.gov or 703-292-4384 if you have any questions or require additional information. We look forward to working with you again in the future.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Sethuraman Panchanathan'.

Sethuraman Panchanathan
Director

2415 Eisenhower Avenue, Suite 19100 Alexandria, VA 22314

Appendix XI: GAO Contact and Staff Acknowledgments

GAO Contact

Candice Wright, (202) 512-6888 or WrightC@gao.gov

Staff Acknowledgments

In addition to the individual named above, Joseph Cook (Assistant Director), Bethann E. Ritter Snyder (Analyst in Charge), Rodney Bacigalupo, Cheron Brooks, Jenny Chanley, Jehan Chase, Louise Fickel, Jeff Rueckhaus, Nathan Steele, and Edith Yuh made key contributions to this report.

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