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SMALL BUSINESS RESEARCH PROGRAMS

Many Agencies'
Award Issuances Are
Not Timely; Some
Practices May
Improve Timeliness

GAO Highlights

Highlights of [GAO-20-693](#), a report to congressional committees

Why GAO Did This Study

Federal agencies awarded almost \$3 billion in SBIR and STTR awards in fiscal year 2019 to help small businesses develop and commercialize technologies. Through these two programs, participating agencies solicit proposals at least once a year, review the proposals to determine which small businesses should receive awards, and notify applicants if they will receive an award. Timely issuance of awards—of which there were more than 7,000 in fiscal year 2019—can affect the speed with which small businesses receive funds and can begin work, according to SBA.

SBA's SBIR/STTR policy directive provides requirements regarding how long participating agencies should take to notify applicants of their decision, as well as recommendations for how long the agencies should take to issue awards. The John S. McCain National Defense Authorization Act for Fiscal Year 2019 includes a provision for GAO to report annually for 4 years on the timeliness of agencies' proposal reviews and award issuances. This report, the second, examines (1) the timeliness of participating agencies in notifying applicants and issuing SBIR and STTR awards in fiscal year 2019 and (2) practices participating agencies use that are intended to improve timeliness.

GAO analyzed award data, reviewed documentation, and interviewed officials from SBA and the 29 agencies participating in the SBIR and STTR programs in fiscal year 2019.

View [GAO-20-693](#). For more information, contact Candice N. Wright at (202) 512-6888 or wrightc@gao.gov.

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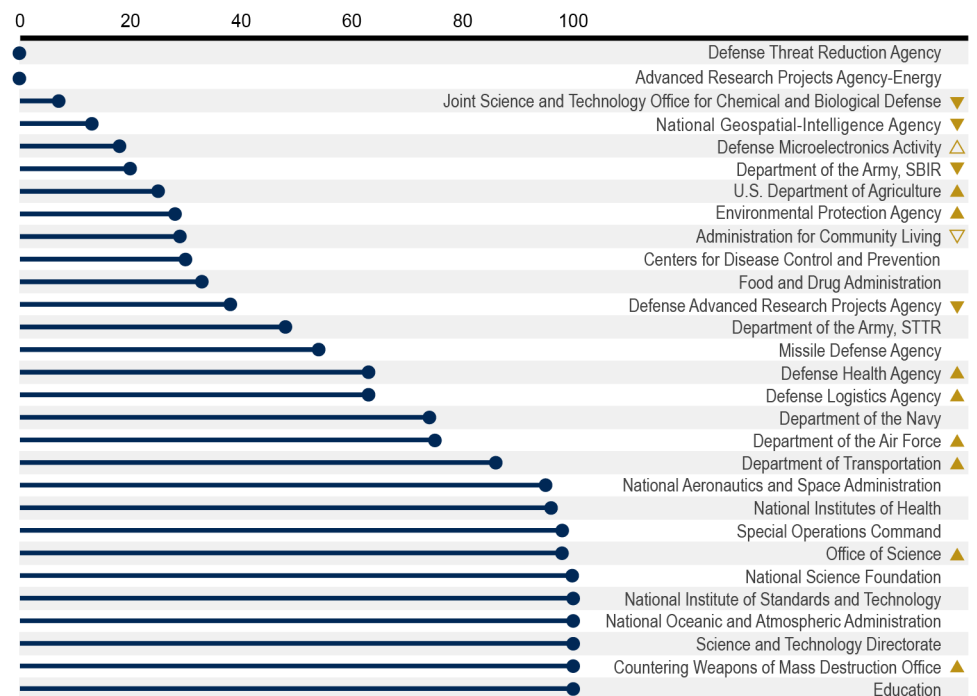
SMALL BUSINESS RESEARCH PROGRAMS

Many Agencies' Award Issuances Are Not Timely; Some Practices May Improve Timeliness

What GAO Found

In fiscal year 2019, many agencies that participate in the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs were not consistently on time in notifying awardees or issuing awards, similar to fiscal years 2016 through 2018, which GAO previously reviewed. For notification, 15 of the 29 participating agencies met the timeliness requirement (90 calendar days for most agencies) for at least 90 percent of their awards, whereas 14 did not. For award issuance, 10 agencies met the timeliness recommendation (180 calendar days for most agencies) for at least 90 percent of their awards, and 19 did not. See figure for details.

Percent of Small Business Awards Issued within the Recommended Time for Fiscal Year 2019



▲▼ Timeliness improved or declined by 10 percentage points or more over fiscal years 2016 through 2018, and change is statistically significant ($p < 0.05$). ▲▽ Timeliness improved or declined by 10 percentage points or more over fiscal years 2016 through 2018, and change is not statistically significant.

Source: GAO analysis of Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) award data. | GAO-20-693

Note: The Small Business Administration's SBIR/STTR policy directive recommends the National Institutes of Health and National Science Foundation issue awards within 15 months, rather than the 180 days recommended for all other agencies.

Agencies use various practices that they say help improve the timeliness of applicant notification and issuance of SBIR and STTR awards. GAO found that for three practices—using internal officials to review applications, using dedicated contracting officers to make awards, and developing strategies to cope with funding issues—participating agencies may be more likely to meet timeliness requirements or recommendations if they use the practices.

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Abbreviations

ACL	Administration for Community Living
CDC	Centers for Disease Control and Prevention
DHS	Department of Homeland Security
FY	fiscal year
FDA	Food and Drug Administration
NIH	National Institutes of Health
NOAA	National Oceanic and Atmospheric Administration
HHS	Department of Health and Human Services
NSF	National Science Foundation
R&D	research and development
SBA	Small Business Administration
SBIR	Small Business Innovation Research
STTR	Small Business Technology Transfer
USDA	U.S. Department of Agriculture

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September 30, 2020

Congressional Committees

The Small Business Innovation Research (SBIR) program and the Small Business Technology Transfer (STTR) program were established to enable federal agencies to support research and development (R&D) projects carried out by small businesses.¹ For example, an SBIR award from the Department of Health and Human Services (HHS) helped a small business develop glasses that allow people with color vision deficiency to see the full color palette, and this business has made more than \$20 million in annual sales, according to information on the SBIR website.

Pursuant to the Small Business Act, federal agencies with obligations of \$100 million or more for extramural R&D are required to participate in the SBIR program, and those with such obligations of \$1 billion or more are also required to participate in the STTR program.² According to the Small Business Administration (SBA), which oversees the programs, and in accordance with the statute, 11 federal agencies participate in the SBIR program or in both the SBIR and STTR programs.³ According to data from these 11 agencies, they made almost \$3 billion in SBIR and STTR awards in fiscal year 2019.⁴

¹The Small Business Innovation Development Act of 1982 established the SBIR program. Pub. L. No. 97-219, 96 Stat. 217 (1982). This Act amended section 9 of the Small Business Act, Pub. L. No. 85-536, 72 Stat. 384 (1958), codified as amended at 15 U.S.C. § 638. The Small Business Technology Transfer Act of 1992 established the STTR program. Pub. L. No. 102-564, tit. II, 106 Stat. 4265 (1992). This Act provided additional amendments to 15 U.S.C. § 638.

²15 U.S.C. §§ 638(f)(1), (n)(1)(A). Agencies' R&D programs generally include funding for two types of R&D: intramural and extramural. Intramural R&D is conducted by employees of a federal agency in or through government-owned, government-operated facilities. Extramural R&D is generally conducted by nonfederal employees outside of federal facilities.

³Five of the 11 federal agencies that participate in the SBIR program also participate in the STTR program: the Departments of Defense, Energy, Health and Human Services, National Aeronautics and Space Administration, and the National Science Foundation.

⁴In this report, we refer to the agencies and their respective components that issue SBIR and STTR awards as participating agencies, and we use the term "award" to include contracts, grants, and cooperative agreements.

SBA issued a policy directive on the general operation of the SBIR and STTR programs.⁵ In particular, most participating agencies are required to review proposals and notify applicants of the agency's award decision within 90 calendar days after the closing date of a solicitation for proposals, and most agencies are recommended to issue an award within 180 days after the closing date.⁶ How quickly participating agencies review proposals, notify applicants, and issue awards affects the speed with which small businesses receive funds and can begin work, according to SBA. This is important given the role of the SBIR and STTR programs in supporting scientific excellence and technological innovation by investing federal research funds for critical American priorities and in building a strong national economy.

The John S. McCain National Defense Authorization Act for Fiscal Year 2019 includes provisions for GAO to report annually for 4 years on the timeliness of participating agencies' SBIR and STTR proposal reviews and award issuances.⁷ In September 2019, we reported that many participating agencies took longer to notify applicants than required, and they also issued awards later than recommended.⁸ We reported that overall, participating agencies reviewed proposals and notified awardees within the required time for 84 percent of the SBIR and STTR awards that we reviewed for fiscal years 2016 through 2018. In addition, we reported that these agencies issued 76 percent of the SBIR and STTR awards within the recommended time for awards that we reviewed for fiscal years 2016 through 2018. We also reported that the timeliness of notification and award issuance of individual participating agencies varied widely. For example, a few agencies met the issuance recommendation for all of their awards in fiscal years 2016 through 2018. In contrast, a few agencies did not meet the issuance recommendation for any awards during those years.

This report—the second of the annual reports required by the act—examines (1) the timeliness of participating agencies in notifying

⁵15 U.S.C. §§ 638(j), (p); Small Business Administration, SBIR/STTR Policy Directive (May 2, 2019).

⁶SBIR/STTR Policy Directive § 7(c)(1).

⁷Pub. L. No. 115-232 § 854(b)(2)(B), 132 Stat. 1636, 1887 (2018), codified at 15 U.S.C. § 638(ii)(2). The Act also calls for the reporting on best practices for shortening proposal review and award times by no later than December 5, 2021.

⁸GAO, *Small Business Research Programs: Many Agencies Took Longer to Issue Small Business Awards than Recommended*, [GAO-19-620](#) (Washington, D.C.: Sept. 26, 2019).

applicants and issuing SBIR and STTR awards in fiscal year 2019 and (2) practices participating agencies use that are intended to improve timeliness of applicant notification and SBIR and STTR award issuance. The scope of our review included the 11 agencies that participated in either or both of the SBIR or STTR programs in fiscal years 2016 through 2019. Within the 11 federal agencies that participated in the SBIR and STTR programs, five—the Departments of Commerce, Defense, Energy, Health and Human Services, and Homeland Security—have among them a total of 23 components that issue SBIR and STTR awards. These 23 components may select their own topics for awards, review and select proposals for funding, and make and monitor progress on awards. In this report, we reviewed the six federal agencies as well as the 23 components of the five departments that issue awards under the programs, for a total of 29 participating agencies (see table 1).

Table 1: Twenty-Nine Participating Agencies in GAO’s Review of Small Business Award Programs

Department of Commerce	Department of Energy
1. National Institute of Standards and Technology	16. Advanced Research Projects Agency-Energy
2. National Oceanic and Atmospheric Administration	17. Office of Science
Department of Defense	Department of Health and Human Services
3. Department of the Air Force	18. Administration for Community Living
4. Department of the Army, SBIR ^a	19. Centers for Disease Control and Prevention
5. Department of the Army, STTR ^a	20. Food and Drug Administration
6. Department of the Navy	21. National Institutes of Health
7. Defense Advanced Research Projects Agency	Department of Homeland Security
8. Defense Health Agency	22. Science and Technology Directorate
9. Defense Logistics Agency	23. Countering Weapons of Mass Destruction Office
10. Defense Microelectronics Activity	24. Department of Education
11. Defense Threat Reduction Agency	25. Department of Transportation
12. Joint Science and Technology Office for Chemical and Biological Defense	26. Environmental Protection Agency
13. Missile Defense Agency	27. National Aeronautics and Space Administration
14. National Geospatial-Intelligence Agency	28. National Science Foundation
15. Special Operations Command	29. Department of Agriculture

Source: GAO review of agency documents and interviews with agency officials. | GAO-20-693

Note: Programs include the Small Business Innovation Research (SBIR) program and Small Business Technology Transfer (STTR) program.

^aThe Army oversees SBIR and STTR awards through two program offices.

To examine the timeliness of participating agencies in notifying applicants and issuing SBIR and STTR awards, we collected information on phase I and phase II awards⁹ made by 29 participating agencies during fiscal year 2019, the most recent year for which data were available. For each of these awards, we repeated the analysis we conducted for our September 2019 report of awards made from fiscal years 2016 through 2018. We analyzed participating agencies' data to determine their timeliness in notifying awardees and issuing awards in fiscal year 2019 and to identify trends and changes, if any, since our last report.¹⁰ In particular, for every award issued in fiscal year 2019, we asked each participating agency to report certain dates, including the date the agency received the awardee's proposal (the proposal submission date), the date the solicitation closed for the awardee's proposal, the date the agency notified the awardee that their proposal was recommended for award, the date the agency and small business agreed to a final award document (the award issuance date), and the award's period of performance—the first and last days of the period during which the award activities were expected to occur.¹¹ For one of the 29 participating agencies—HHS's Administration for Community Living (ACL)—we also collected and analyzed information on awards made in fiscal years 2016 through 2018 because we did not obtain this information for inclusion in the scope for our September 2019 report.¹² In this report, we report on the timeliness of ACL in notifying applicants and issuing SBIR awards alongside the timeliness of the other 28 participating agencies.

To determine participating agencies' timeliness, we calculated the time spent reviewing a proposal and notifying the awardee starting from the solicitation close date and ending at the notification of the awardee. We

⁹The SBIR and STTR programs each include three phases. In phase I, agencies issue awards to small businesses to determine the scientific and technical merit and feasibility of ideas that appear to have commercial potential. In phase II, small businesses with phase I awards may compete to continue their R&D project for an additional period. Phase III is for small businesses to pursue commercialization of technology developed in prior phases. We excluded phase III awards because they are funded by sources other than the SBIR and STTR programs. 15 U.S.C. § 638 (e)(4),(6).

¹⁰[GAO-19-620](#).

¹¹SBA's SBIR/STTR policy directive states that agencies are to notify all applicants of the results of the agency's proposal review. Because we collected data on awards for this report, we did not examine the time agencies used to notify applicants whose proposals were not recommended for award.

¹²[GAO-19-620](#).

also calculated the time spent issuing an award starting from the solicitation close date and ending at either the award issuance date or the first day of the period of performance if the issuance date was not available.¹³ For each participating agency, we calculated (1) the mean and median notification times and the percentage of awardees notified within the required time period and (2) the mean and median award issuance times and the percentage of awards issued within the recommended time.¹⁴ We counted notification or issuance as late if they were 1 or more days past the required or recommended period of time.

In addition, we combined data on awards for fiscal year 2019 with data from our previous report on awards made in fiscal years 2016 through 2018 to identify trends, such as (1) whether participating agencies' timeliness improved or declined by 10 percentage points or more over fiscal years 2016 through 2018, including whether that change was statistically significant and (2) the percentage of awardees that participating agencies notified within the required time period and the percentage of awards that agencies issued within the recommended time over fiscal years 2016 through 2019.¹⁵ For each of these calculations and analyses of trends, we combined phase I and II awards. We anticipate examining differences between phase I and phase II awards, as well as the time between phase I and phase II awards, in future reports.

We took several steps to assess the reliability of participating agencies' award data for fiscal year 2019. In particular, we reviewed agencies' responses to our data request to check for omissions or incorrect interpretations of the data elements we requested for each award. In addition, we evaluated the data for potential outliers, such as particularly long or short notification or issuance periods, and potential duplicates, such as awards with identical award numbers. We followed up with participating agencies, who made corrections as necessary. Where we found variation or trends in agencies' timeliness performance, we sought explanations from agency officials and in other information agencies

¹³In some instances, we used the proposal submission date in lieu of the solicitation close date—for example, when agencies did not use solicitations to obtain proposals for phase II awards and instead requested phase II proposals from small businesses during phase I.

¹⁴An agency's mean notification and award issuance times represent the average amount of time spent across all awards. An agency's median notification and award issuance times represent the time at which half of the notifications were completed and awards were issued.

¹⁵We defined statistical significance as having a p-value of less than 0.05. We reported changes at the level of participating component agencies.

provided to us, such as changes they made to their process for reviewing proposals and issuing awards or challenges they noted to meeting timeliness requirements or recommendations. We found the award data we obtained from participating agencies to be sufficiently reliable for the purpose of describing the time spent reviewing proposals and issuing awards at each agency.

To examine the practices participating agencies use that are intended to improve timeliness of applicant notification and SBIR and STTR award issuance, we conducted semistructured interviews with the 29 participating agencies and SBA. We used a standard set of questions about agencies' practices for notifying applicants and issuing awards, including questions related to tracking and improving timeliness, recent changes in agencies' processes, and reasons for any delays, among other things. In addition, we requested and reviewed documentation from participating agencies related to notifying applicants and issuing awards, such as resources they provided to proposal reviewers, any automation of their processes, and their internal systems for tracking timeliness. We also reviewed participating agencies' websites for the SBIR and STTR programs to identify resources provided to small business applicants and any other information on agencies' processes for notifying applicants and issuing awards.

Through our interviews and review of documentation and websites, we identified the practices each participating agency used that are intended to improve timeliness, and determined the number of agencies that used each practice. In this report, we use "nearly all" to indicate that 24 or more of the 29 participating agencies used a practice, "most" for 19 to 23 participating agencies, "many" for 14 to 18 participating agencies, "some" for nine to 13 participating agencies, "several" for four to 8 participating agencies, and "few" for one to three participating agencies.

We conducted regression analysis to test for associations between agency practices and timeliness. Specifically, our regression analysis included measures for the following practices: using dedicated contracting or grant officers, using internal reviewers, providing resources to reviewers, providing resources to small business applicants, automating parts of the process, having an internal system to track timeliness, developing strategies to cope with funding issues, reducing time between phase I and phase II awards, and using other practices. Our analysis controlled for program type (SBIR or STTR), award phase (phase I or

phase II), award amount, number of agency awards made in fiscal year 2019, and differences in agency statutory deadlines.¹⁶

We conducted this performance audit from January 2020 to September 2020 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 and STTR programs are similar in that participating agencies identify topics and issue awards to small businesses for R&D projects. The STTR program further requires small businesses to partner with a nonprofit research institution, such as a college, university, or federally funded research and development center. Each year, small businesses may apply for SBIR/STTR awards from a participating agency to develop and commercialize innovative technologies. Awards include phase I awards, where agencies issue awards to determine the scientific and technical merit and feasibility of ideas that appear to have commercial potential. Awards also include phase II awards, where small businesses with phase I projects that demonstrate scientific and technical merit and feasibility, in addition to commercial potential, may compete for awards to continue the R&D project for an additional period. As of November 2019, agencies may issue a phase I award (including modifications) up to \$256,580 and a phase II award (including modifications) up to \$1,710,531 without seeking approval from SBA, which oversees the SBIR and STTR programs.¹⁷

According to the SBA's SBIR/STTR policy directive, at least once a year, each participating agency issues a solicitation requesting proposals that

¹⁶We defined statistical significance as having a p value of less than 0.05 and only report those practices for which the association was robust across different model specifications. Our analysis was subject to omitted variable bias because there may be other factors that affect timeliness that we may not have measured or included in the regression model. As a result, our analyses of these data, taken alone, do not establish whether these practices cause more or less timely processing of applications, but they provide evidence of whether there are differences in timeliness across the practices based on the data analyzed.

¹⁷Participating agencies may also issue phase III awards for small businesses to pursue commercialization of technology developed in prior phases. Such awards are funded by sources other than the SBIR and STTR programs.

can cover a variety of topics.¹⁸ Each participating agency reviews the proposals it receives to determine which small businesses should receive awards, then negotiates contracts, grants, or cooperative agreements to issue the awards to the selected small business applicants. The Small Business Act and SBA's SBIR/STTR policy directive state that all but two participating agencies—National Institutes of Health (NIH) and National Science Foundation (NSF)—are required to review proposals and to notify applicants of the agency's decision no more than 90 calendar days after the closing date of the solicitation.¹⁹ Further, the policy directive recommends that all but two participating agencies (NIH and NSF) issue awards—that is, finalize the funding agreement with the selected small business applicants—no more than 180 calendar days after the closing date of the solicitation.²⁰ According to an SBA official, these time periods apply to both phase I and phase II awards. In addition, according to SBA officials, SBA's SBIR/STTR policy directive requires the time period for applicant notification because this time period is explicitly required by statute, whereas the policy directive recommends the time period for award issuance because the statute is silent.

Agencies Did Not Consistently Notify Awardees or Issue Awards on Time

In fiscal year 2019, many participating agencies did not consistently notify awardees or issue SBIR and STTR awards on time. For notification, 15 of the 29 agencies met the timeliness requirement for at least 90 percent of their awards, whereas the remaining 14 agencies did not. For award issuance, 10 agencies met the timeliness recommendation for at least 90 percent of their awards, and the remaining 19 agencies did not.

Half of Participating Agencies Notified Most Awardees on Time

The Small Business Act and SBA's SBIR/STTR policy directive requires all but two participating agencies to review proposals and notify small business applicants of the agency's award decision within 90 calendar

¹⁸SBIR/STTR Policy Directive § 5(a).

¹⁹15 U.S.C. § 638(g)(4), (o)(4); SBIR/STTR Policy Directive § 7(c)(1). The act and directive require NIH and NSF to notify applicants no more than 1 year after the closing date of the solicitation. 15 U.S.C. § 638(g)(4), (o)(4); SBIR/STTR Policy Directive § 7(c)(1).

²⁰SBIR/STTR Policy Directive § 7(c)(1). The directive recommends that NIH and NSF issue awards no more than 15 months after the closing date of the solicitation. SBIR/STTR Policy Directive § 7(c)(1). The SBA's SBIR/STTR Policy Directive defines funding agreement as any contract, grant, or cooperative agreement entered into between any federal agency and any small business concern for the performance of experimental, developmental, or research work, including products or services, funded in whole or in part by the federal government. SBIR/STTR Policy Directive § 3(r).

days after solicitation close, and they require NIH and NSF to do so within 1 year.²¹ According to data provided by participating agencies, 15 of the 29 agencies met the notification timeliness requirement for at least 90 percent of their SBIR and STTR awards in fiscal year 2019. The remaining 14 agencies met the requirement for fewer than 90 percent of their awards in fiscal year 2019.

Looking at all awards in aggregate, participating agencies notified awardees within the required time for 6,081 of the 7,049 awards (86 percent) that we reviewed for fiscal year 2019. This result is similar to what we reported in September 2019 for fiscal years 2016 through 2018, that participating agencies notified awardees within the required time for 12,890 of the 15,453 awards (84 percent) that we reviewed.²²

Many participating agencies were about as timely with notifications in fiscal year 2019 as in the previous 3-year period (fiscal years 2016 through 2018). Specifically, we found that 14 of the 29 participating agencies notified awardees within the required time at about the same rate (within 10 percentage points), nine improved by 10 percentage points or more, and six declined by 10 percentage points or more.²³ A few participating agencies provided reasons for improvement in fiscal year 2019. For example, the Air Force notified 60 percent of awardees on time in fiscal years 2016 through 2018 and 97 percent of awardees on time in fiscal year 2019. According to Air Force officials, the improvement is due in part to some pilot activities they initiated in fiscal year 2018, such as “pitch days”—scheduled events where small business applicants give brief presentations to proposal reviewers, with decisions made shortly thereafter. In addition, Defense Threat Reduction Agency officials attributed their agency’s improvement in fiscal year 2019 to making timeliness a priority. Table 2 gives descriptive statistics for award notification times by agency.²⁴

²¹15 U.S.C. § 638(g)(4), (o)(4); SBIR/STTR Policy Directive § 7(c)(1).

²²[GAO-19-620](#).

²³The improvement in notification time was statistically significant for six of the nine agencies, and the decline in notification timeliness was statistically significant for five of the six agencies ($p < 0.05$).

²⁴The mean and median notification times provides measures of time spent reviewing proposals and notifying awardees. The mean notification time represents the average amount of time spent across all awards. The median notification time represents the time at which half of all notifications were completed.

Table 2: Number of SBIR and STTR Awards, Mean and Median Notification Times, and Percent of Awardees Notified within the Required Period by Participating Agency, Fiscal Year 2019

Department or agency Component agency	Number of awards	Mean notification time (days)	Median notification time (days)	Percent of awardees notified within required period ^a
Department of Commerce	36	83	87	53
National Institute of Standards and Technology	19	68	87	100
National Oceanic and Atmospheric Administration	17	100	100	▼ 0
Department of Defense	3700	54	31	80
Department of the Air Force	1928	30	30	▲ 97
Department of the Navy	762	78	73	78
Department of the Army, SBIR	438	78	91	▼ 36
Missile Defense Agency	133	99	92	▼ 43
Defense Health Agency	89	78	61	91
Defense Advanced Research Projects Agency	64	56	54	95
Department of the Army, STTR	64	83	91	▼ 14
Special Operations Command	60	50	48	92
Defense Logistics Agency	41	68	93	49
National Geospatial-Intelligence Agency	39	149	99	▼ 10
Defense Threat Reduction Agency	38	74	63	▲ 92
Joint Science and Technology Office for Chemical and Biological Defense	27	81	79	▽ 85
Defense Microelectronics Activity	17	213	197	▲ 18
Department of Energy	617	81	84	100
Office of Science	614	81	84	▲ 100
Advanced Research Projects Agency-Energy	3	83	90	△ 100
Department of Health and Human Services	1485	184	164	96
National Institutes of Health	1438	182	163	98
Centers for Disease Control and Prevention	30	262	284	△ 10
Administration for Community Living	14	175	210	△ 29
Food and Drug Administration	3	266	335	0
Department of Homeland Security	37	66	65	100
Science and Technology Directorate	29	72	65	100
Countering Weapons of Mass Destruction Office	8	47	62	100
Department of Education	23	84	86	▲ 100
Department of Transportation	14	60	57	▲ 93

Department or agency Component agency	Number of awards	Mean notification time (days)	Median notification time (days)	Percent of awardees notified within required period ^a
Environmental Protection Agency	32	128	135	0
National Aeronautics and Space Administration	525	85	81	96
National Science Foundation	477	199	203	99
U.S. Department of Agriculture	105	150	166	0

Legend: ▲ or ▼ = timeliness improved or declined by 10 percentage points or more over fiscal years 2016 through 2018, and change is statistically significant (p < 0.05). △ or ▽ = timeliness improved or declined by 10 percentage points or more over fiscal years 2016 through 2018, and change is not statistically significant.

Source: GAO analysis of Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) award data. | GAO-20-693

^aThe National Science Foundation and National Institutes of Health must notify awardees within 1 year. All other participating agencies must issue a notice in no more than 90 calendar days.

According to award data from the participating agencies for all 4 fiscal years (2016 through 2019), 15 of the 29 agencies met the notification timeliness requirement for 90 percent or more of their awards in all 4 fiscal years or in 3 of the 4 fiscal years. For example, both of the Department of Homeland Security’s (DHS) participating agencies—the Countering Weapons of Mass Destruction Office and the Science and Technology Directorate—notified all awardees within the required period for all 4 fiscal years we reviewed. According to DHS officials, their timeliness is due in part to having established an internal notification requirement (75 calendar days) that is shorter than SBA’s SBIR/STTR policy directive requirement (90 calendar days). The National Oceanic and Atmospheric Administration (NOAA) notified all awardees within the required period for all but 1 fiscal year that we reviewed, fiscal year 2019. For example, NOAA’s mean review time to notification increased from 82 calendar days in fiscal years 2016 through 2018 to 100 calendar days in the fiscal year 2019. NOAA officials told us that during fiscal year 2019, they transitioned from using contracts to grants to issue SBIR awards. This transition involved developing new working relationships with an internal office, and officials expected NOAA’s timeliness to decline some for fiscal year 2019 awards.

Among participating agencies that did not meet the notification timeliness requirement for 90 percent or more of their awards in at least 3 of the 4 years, agency officials provided various explanations for trends in the data. For example, according to U.S. Department of Agriculture (USDA) officials, the agency did not notify any of their awardees within the required period for any of the 4 fiscal years we reviewed, in part because they rely on external experts to review proposals. Table 3 shows the

percent of awardees notified within the required time by each participating agency for each of the 4 fiscal years.

Table 3: Percent of Awardees Notified within the Required Period per Fiscal Year (FY), by Participating Agency

Department or agency Component agency	Percent of FY 2016 awardees notified within required period ^a	Percent of FY 2017 awardees notified within required period	Percent of FY 2018 awardees notified within required period	Percent of FY 2019 awardees notified within required period
Department of Commerce	100	98	100	53
National Institute of Standards and Technology	100	95	100	100
National Oceanic and Atmospheric Administration	100	100	100	0
Department of Defense	83	70	69	80
Department of the Air Force	92	40	49	97
Department of the Navy	78	79	79	78
Department of the Army, SBIR	99	49	87	36
Missile Defense Agency	94	94	95	43
Defense Health Agency	98	99	100	91
Defense Advanced Research Projects Agency	86	99	94	95
Department of the Army, STTR	38	26	11	14
Special Operations Command	88	95	100	92
Defense Logistics Agency	35	55	58	49
National Geospatial-Intelligence Agency	n/a ^b	100	0	10
Defense Threat Reduction Agency	0	11	8	92
Joint Science and Technology Office for Chemical and Biological Defense	94	97	96	85
Defense Microelectronics Activity	0	0	0	18
Department of Energy	99.6	49	96	100
Office of Science	99.6	49	97	100
Advanced Research Projects Agency-Energy	100	100	57	100
Department of Health and Human Services^c	95	96	95	96
National Institutes of Health	97	98	98	98
Administration for Community Living	29	0	23	29

Department or agency Component agency	Percent of FY 2016 awardees notified within required period ^a	Percent of FY 2017 awardees notified within required period	Percent of FY 2018 awardees notified within required period	Percent of FY 2019 awardees notified within required period
Centers for Disease Control and Prevention	0	0	0	10
Food and Drug Administration	0	0	0	0
Department of Homeland Security	100	100	100	100
Science and Technology Directorate	100	100	100	100
Countering Weapons of Mass Destruction Office	100	100	100	100
Department of Education	36	100	100	100
Department of Transportation	89	90	38	93
Environmental Protection Agency	0	0	0	0
National Aeronautics and Space Administration	99	100	96	96
National Science Foundation	99.8	100	99.8	99
U.S. Department of Agriculture	0	0	0	0

Source: GAO analysis of Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) award data. | GAO 20-693

^aThe National Science Foundation and National Institutes of Health must notify awardees within 1 year. All other participating agencies must issue a notice in no more than 90 calendar days.

^bThe National Geospatial-Intelligence Agency made no SBIR or STTR awards in fiscal year 2016.

^cDepartment of Health and Human Services results for fiscal year 2016 through fiscal year 2018 differ from those that we reported in [GAO-19-620](#) because of the addition of data on awards made by the Administration for Community Living.

One-Third of Participating Agencies Issued Most Awards on Time

SBA's SBIR/STTR policy directive recommends that all but two participating agencies issue awards to small business applicants within 180 calendar days after solicitation close, and recommends that NIH and NSF do so within 15 months.²⁵ According to data provided by participating agencies, 10 of the 29 agencies met the award issuance timeliness recommendation for at least 90 percent of their SBIR and STTR awards in fiscal year 2019. The remaining 19 agencies met the recommendation for fewer than 90 percent of their awards in fiscal year 2019.

Looking at all awards in aggregate, participating agencies issued awards within the recommended time for 5,490 of 7,051 awards (78 percent) we reviewed for fiscal year 2019. This result is similar to what we reported in September 2019 for fiscal years 2016 through 2018, that participating

²⁵SBIR/STTR Policy Directive § 7(c)(1).

agencies issued awards within the recommended time period for 11,710 of the 15,453 SBIR and STTR awards (76 percent) we reviewed.²⁶

Half of participating agencies were about as timely with award issuance in fiscal year 2019 as in the previous 3-year period (fiscal years 2016 through 2018). Specifically, we found that 15 of the 29 participating agencies issued awards within the recommended time at about the same rate (within 10 percentage points), nine improved by 10 percentage points or more, and five declined by 10 percentage points or more.²⁷ Table 4 provides descriptive statistics for award issuance time by agency.

Table 4: Number of SBIR and STTR Awards, Mean and Median Award Issuance Times, and Percent Issued within the Recommended Period by Participating Agency, Fiscal Year 2019

Department or agency Component agency	Number of awards	Mean award issuance time (days)	Median award issuance time (days)	Percent issued within recommended period ^a
Department of Commerce	36	107	94	100
National Institute of Standards and Technology	19	88	87	100
National Oceanic and Atmospheric Administration	17	128	128	100
Department of Defense	3700	159	152	64
Department of the Air Force	1928	125	114	▲ 75
Department of the Navy	762	159	132	74
Department of the Army, SBIR	438	245	223	▼ 19
Missile Defense Agency	133	229	162	54
Defense Health Agency	89	199	154	▲ 63
Defense Advanced Research Projects Agency	64	235	210	▼ 38
Department of the Army, STTR	64	217	181	48
Special Operations Command	60	105	107	98
Defense Logistics Agency	41	156	158	▲ 63
National Geospatial-Intelligence Agency	39	238	201	▼ 13
Defense Threat Reduction Agency	38	274	261	0

²⁶GAO-19-620.

²⁷The improvement in issuance time was statistically significant for eight of the nine agencies, and the decline in issuance timeliness was statistically significant for four of the five agencies (p < 0.05).

Department or agency Component agency	Number of awards	Mean award issuance time (days)	Median award issuance time (days)	Percent issued within recommended period ^a
Joint Science and Technology Office for Chemical and Biological Defense	27	269	250	▼ 7
Defense Microelectronics Activity	17	239	209	△ 18
Department of Energy	617	132	127	98
Office of Science	614	131	127	▲ 98
Advanced Research Projects Agency- Energy	3	252	268	0
Department of Health and Human Services	1485	253	237	94
National Institutes of Health	1438	253	237	96
Centers for Disease Control and Prevention	30	276	305	30
Administration for Community Living	14	211	259	▽ 29
Food and Drug Administration	3	266	335	33
Department of Homeland Security	37	124	113	100
Science and Technology Directorate	29	124	111	100
Countering Weapons of Mass Destruction Office	8	126	129	▲ 100
Department of Education	23	88	90	100
Department of Transportation	14	161	163	▲ 86
Environmental Protection Agency	32	244	274	▲ 28
National Aeronautics and Space Administration	525	146	139	95
National Science Foundation	477	199	203	99.8
U.S. Department of Agriculture	105	240	243	▲ 25

Legend: ▲ or ▼ = timeliness improved or declined by 10 percentage points or more over fiscal years 2016 through 2018, and change is statistically significant (p < 0.05). △ or ▽ = timeliness improved or declined by 10 percentage points or more over fiscal years 2016 through 2018, and change is not statistically significant.

Source: GAO analysis of Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) award data. | GAO-20-693

^aThe National Science Foundation and National Institutes of Health should issue awards within 15 months. All other agencies should issue an award in no more than 180 calendar days.

According to award data from participating agencies for all 4 fiscal years (2016 through 2019), eight of the 29 participating agencies met the award issuance timeliness recommendation for 90 percent or more of their awards in all 4 fiscal years or in 3 of the 4 years. Participating agencies that did not consistently meet the award issuance timeliness recommendation provided various explanations for trends in the data, including challenges. For example:

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- Given the limited number of awards that the Centers for Disease Control and Prevention (CDC) and Food and Drug Administration (FDA) issue, officials at these HHS participating agencies told us they rely on NIH—which has the 1-year notice requirement and 15 month award recommendation—to assist in the receipt, review, and referral of applications.²⁸ CDC and FDA officials acknowledged that their reliance on NIH to facilitate their programs affects their ability to meet their shorter notification requirement (90 calendar days) and award issuance recommendation (180 calendar days).
 - Officials with the Joint Science and Technology Office for Chemical and Biological Defense noted challenges with the decentralized nature of their agency's process, which may not lend itself to timeliness. For example, according to agency officials, they are dependent on other participating agencies within the Department of Defense to review proposals and issue awards, which can result in delays.
 - Defense Logistics Agency officials said their internal guidelines require that contracting officers have at least 90 calendar days to process and issue awards after notification, and in some cases, at least 120, which can cause delays in meeting the award issuance recommendation.
 - Advanced Research Projects Agency-Energy officials said they negotiate multiple phases of awards (such as phase I and II awards) at the same time for all awardees and before phase I awards are made. According to the officials, negotiating multiple phases at the same time takes more time than negotiating a single phase and can cause delays in issuing awards.
 - Some participating agency officials cited other challenges, including challenges that we previously reported on: (1) the limited availability and heavy workload of grants or contracting officers, who play a key role in issuing awards and (2) delays in determining the amount of

²⁸According to CDC officials, CDC has an interagency agreement with NIH to assist in the receipt, review, and referral of applications.

funding available for small business awards due to continuing resolutions or delays in intradepartmental fund transfers.²⁹

In contrast, some participating agencies cited reasons for their success in making awards within the recommended period. For example, Special Operations Command officials cited the benefit of having dedicated contracting officers for SBIR and STTR awards and flexibility with the type of contract or other award vehicles they can use, which allows the agency to select an award vehicle that may require less time to issue an award.³⁰ In addition, National Aeronautics and Space Administration officials cited automation of much of the agency's award process through their Electronic Handbook system, which has been in use since before 2016 and saves officials' time during the review, selection, and contract negotiation process. Table 5 shows the percent of awards issued within the recommended time period by each participating agency for each of the 4 fiscal years.

²⁹[GAO-19-620](#). A continuing resolution is an appropriation act that provides budget authority for federal agencies, specific activities, or both to continue in operation when Congress and the President have not completed action on the regular appropriation acts by the beginning of the fiscal year. It may be enacted for the full year, up to a specified date, or until regular appropriations are enacted. A continuing resolution usually specifies a maximum rate at which the obligations may be incurred based on levels specified in the resolution. For example, the resolution may state that obligations may not exceed the current rate or must be the lower of the amounts provided in the appropriation bills passed in the House or Senate.

³⁰We reported in September 2019, the type of award vehicle—such as contract type—can affect the timeliness of award issuance. For example, we reported that agencies spent more time issuing awards they identified as cost reimbursement contracts than issuing fixed price contracts, which agency officials said was because of the need to review the awardee's accounting system in accordance with federal acquisition regulations, for cost reimbursement contracts. [GAO-19-620](#).

Table 5: Percent of Awards Issued within the Recommended Period per Fiscal Year (FY), by Participating Agency

Department or agency Component agency	Percent of FY 2016 awards issued within the recommended period ^a	Percent of FY 2017 awards issued within the recommended period	Percent of FY 2018 awards issued within the recommended period	Percent of FY 2019 awards issued within the recommended period
Department of Commerce	100	100	100	100
National Institute of Standards and Technology	100	100	100	100
National Oceanic and Atmospheric Administration	100	100	100	100
Department of Defense	62	50	58	64
Department of the Air Force	66	42	54	75
Department of the Navy	76	61	71	74
Department of the Army, SBIR	43	29	30	19
Missile Defense Agency	56	58	69	54
Defense Health Agency	10	17	61	63
Defense Advanced Research Projects Agency	72	50	25	38
Department of the Army, STTR	25	40	66	48
Special Operations Command	88	94	85	98
Defense Logistics Agency	80	59	28	63
National Geospatial-Intelligence Agency	n/a ^b	100	22	13
Defense Threat Reduction Agency	0	0	0	0
Joint Science and Technology Office for Chemical and Biological Defense	76	36	0	7
Defense Microelectronics Activity	0	0	11	18
Department of Energy	97	50	92	98
Office of Science	98	50	93	98
Advanced Research Projects Agency-Energy	0	0	0	0
Department of Health and Human Services^c	92	95	94	94
National Institutes of Health	93	96	96	96

Department or agency Component agency	Percent of FY 2016 awards issued within the recommended period ^a	Percent of FY 2017 awards issued within the recommended period	Percent of FY 2018 awards issued within the recommended period	Percent of FY 2019 awards issued within the recommended period
Administration for Community Living	100	29	23	29
Centers for Disease Control and Prevention	14	9	39	30
Food and Drug Administration	14	33	50	33
Department of Homeland Security	86	76	74	100
Science and Technology Directorate	100	100	89	100
Countering Weapons of Mass Destruction Office	42	0	0	100
Department of Education	100	100	100	100
Department of Transportation	39	55	92	86
Environmental Protection Agency	0	0	23	28
National Aeronautics and Space Administration	99	99	94	95
National Science Foundation	99.8	100	100	99.8
U.S. Department of Agriculture	0	0	30	25

Source: GAO analysis of Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) award data. | GAO-20-693

^aThe National Science Foundation and National Institutes of Health should issue awards within 15 months. All other agencies should issue an award in no more than 180 calendar days.

^bThe National Geospatial-Intelligence Agency made no SBIR or STTR awards in fiscal year 2016.

^cDepartment of Health and Human Services results for fiscal year 2016 through fiscal year 2018 differ from those that we reported in [GAO-19-620](#) because of the addition of data on awards made by the Administration for Community Living.

Participating Agencies Identified Practices to Improve Timeliness

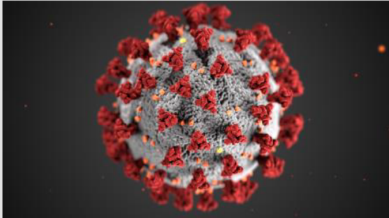
Participating agencies provided information about various practices they use to improve the timeliness of their applicant notification and issuance of SBIR and STTR awards. Some of these practices are specific to agencies' processes for reviewing proposals and notifying applicants, some are specific to issuing awards, and some address both parts of the award process. Nearly all agencies state that practices are generally the same for phase I and phase II awards, as well as SBIR and STTR awards. Most agencies state that they have implemented the practices since before fiscal year 2016. We analyzed the association between the practices and timeliness performance, and found that for three practices—using internal officials to review applications, using dedicated contracting officers, and developing strategies to cope with funding issues—participating agencies may be more likely to meet notification requirements and award issuance recommendations if they use the practices.

Practices for Reviewing Proposals and Notifying Applicants

According to information provided by participating agencies, the agencies use various practices to improve the timeliness of their notification of SBIR and STTR applicants. According to several agency officials, these practices are implemented during the process of reviewing applications and selecting applications for notification. They include using internal reviewers, providing resources to reviewers, performing pilot activities, and using other practices.

Using internal reviewers. Most participating agencies use their own officials to review proposals rather than external officials or experts, and a few agency officials said that the practice helps them more quickly identify and secure reviewers. As we previously reported, the availability of reviewers can affect the time they spend on reviewing proposals, according to some participating agencies.³¹ Internal officials can be faster to train as reviewers than external experts because they may already be familiar with the agency's SBIR and STTR requirements, according to officials from the National Institute of Standards and Technology and National Oceanic and Atmospheric Administration. On the other hand, officials from several agencies said that there are reasons to use external reviewers. For example, USDA officials said that subject matter expertise of external reviewers was important to their proposal review process.

³¹[GAO-19-620](#).



Effects of the COVID-19 Pandemic on Small Business Research Awards

Many of the agencies that participate in the small business research programs stated that their award process has been affected by the outbreak of the Coronavirus Disease 2019 (COVID-19 pandemic), and some of these participating agencies stated that they made changes to their processes in response to the COVID-19 pandemic to ensure timeliness. For example, the Missile Defense Agency revised its proposal review and award recommendation process to take place completely online. Agency officials said that this change shortened the process by 7 to 10 business days. Several participating agencies stated that they delayed or extended solicitations in response to the COVID-19 pandemic.

Source: GAO review of agency information (text); Centers for Disease Control and Prevention, Alissa Eckert, Dan Higgins (photo). | GAO-20-693

Providing resources to reviewers. Nearly all participating agencies provide an array of resources to proposal reviewers, which a few agency officials said can help reviewers better understand the process and complete their review more quickly. For example, participating agencies may provide in-person or virtual training, supplemental guidance documents, and tutorials, covering topics such as the participating agency’s internal review process, timeline of the process, and evaluation criteria.

Performing pilot activities. Officials at some participating agencies told us that they were experimenting with ways to improve timeliness of proposal review and notification. For example, according to agency officials in 2018, the Air Force began to pilot “pitch days”—scheduled events where small business applicants give brief presentations to proposal reviewers, with decisions made shortly thereafter. According to Air Force officials, this change brought the agency officials who review and select proposals for award together, facilitating timely and necessary coordination and decision-making.

Using other practices. Nearly all participating agencies reported additional practices to improve the timeliness of proposal review and notification. For example:

- The Department of Energy’s Office of Science requires “letters of intent” from potential small business applicants, which allows the agency to preview potential applications and provide preliminary feedback, according to agency officials. According to the officials, this practice has been in place since 2012, and the feedback can prompt some potential applicants to not submit proposals—perhaps because they are not responsive to the topics in a solicitation—resulting in higher quality applications and timelier notification of award recipients. We previously reported that officials from some participating agencies said that the number of proposals they receive affects the amount of time they spend on reviewing proposals and notifying awardees.³² The Office of Science also uses the letters to better understand the types of external experts they will need to review proposals and begin recruiting the reviewers, which according to agency officials, can also save time in the proposal review and award notification process.

³²[GAO-19-620](#).

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- The Countering Weapons of Mass Destruction Office and the Science and Technology Directorate established an internal notification requirement (75 calendar days) that is shorter than SBA’s SBIR/STTR policy directive requirement (90 calendar days), according to agency officials. DHS officials said that by setting an internal goal that is earlier than the requirement, they are able to routinely meet the requirement.

Practices for Issuing Awards

According to information provided by participating agencies, the agencies use various practices to improve the timeliness of their issuance of SBIR and STTR awards. According to several agencies, these practices are implemented during the process of preparing award agreements and assembling award packages. They include using dedicated contracting or grant officers, performing pilot activities, and changing award vehicle type.

Using dedicated contracting or grant officers. Some participating agencies said they have assigned responsibility for making SBIR and STTR awards to a number of dedicated contracting or grant officers. A few agencies, such as officials from the Department of Defense, said that this practice can allow for faster award issuance by reducing competing demands on contracting or grant officers’ time and ensuring attention to SBIR and STTR awards. For example, Navy officials said they improved timeliness of award issuance after they established dedicated contracting officers for their SBIR and STTR programs in 2015.

Performing pilot activities. Several participating agencies told us they were performing pilot activities to experiment with ways to improve timeliness of award issuance. For example, Air Force officials said that, since 2018, they have been piloting “contract sprints,” which are scheduled events where award issuance takes place over several days, and agency contracting officers are available to answer applicant questions. According to Air Force officials, contract sprints ensure availability of contracting officers and have contributed to a reduction in the time it takes to issue awards by streamlining award issuance activities.

Changing award vehicle type. Participating agencies issue SBIR and STTR awards through several types of award vehicles, including contracts, grants, and cooperative agreements. We previously reported that officials from some participating agencies said that the contract type was a factor that affected the time needed to issue SBIR and STTR awards. Specifically, we previously reported that officials said that cost

reimbursement contracts took longer to issue because of the need to review the awardee's accounting system in accordance with federal acquisition regulations.³³ Changing the award vehicle type can therefore affect the time needed to issue awards. For example, Navy officials said that in 2020, they started using a new contract vehicle for SBIR and STTR awards—a basic ordering agreement—which is anticipated to decrease the time needed to issue awards.

Practices throughout the Award Process

According to information provided by participating agencies, the agencies use various practices to improve the timeliness of both applicant notification and award issuance of SBIR and STTR awards. These practices include providing resources to small business applicants, using automation, using an internal system to track timeliness, and developing strategies to cope with funding issues. In addition, participating agencies identified various activities that they implement to reduce the time between phase I and phase II awards.

Providing resources to small business applicants. Many participating agencies provide resources to small business applicants to help them understand program requirements and how to submit a complete application. These agencies provide various types of resources to small businesses, such as a list of common reasons applications are rejected, instructions on how to write applications, and application checklists.

Using automation. Nearly all participating agencies automate various parts of their process in various ways, which a few agencies say saves time. For example, some participating agencies use automated evaluation forms to collect and aggregate reviewers' scores and make selection decisions, and a few participating agencies use systems that automatically send timeliness reminders to proposal reviewers and contracting officials.

Having an internal system to track timeliness. Nearly all participating agencies have an internal system in place to track timeliness, which a few agencies say helps them stay on top of deadlines and foresee and troubleshoot potential obstacles to timeliness. Agencies use different types of internal systems to track timeliness, including spreadsheets and databases.

³³[GAO-19-620](#).

Developing strategies to cope with funding issues. Most participating agencies reported performing activities to minimize the impact of continuing resolutions and availability of funding. For example, according to officials from some participating agencies, the agencies time the release of their solicitations to coincide with when they anticipate having funding available, even if there is a continuing resolution. According to a few officials, this practice prevents potential delays such as waiting to review applications and issue notifications while there is a continuing resolution. We previously reported that officials from some participating agencies said that delays in determining the amount of funding available for small business awards due to continuing resolutions or delays in intradepartmental fund transfers may delay the award issuance.³⁴

Reducing time between phase I and phase II awards. Most agency officials told us that they take steps to reduce the amount of time between phase I and phase II awards. According to SBA officials, this may limit the amount of time small businesses have to operate without funding between the awards. For example, several participating agencies recommend or allow phase I small business awardees to submit a phase II proposal prior to the end of their phase I award.

Association between Practices and Timeliness

We conducted a regression analysis to test for associations between participating agencies' practices and timeliness performance.³⁵ We found that for three practices—using internal officials to review applications, using dedicated contracting officers, and developing strategies to cope with funding issues—participating agencies may be more likely to meet notification requirements or award issuance recommendations if they use the practices.³⁶ For example, we found that participating agencies that said they use dedicated contracting officers are about 20 percentage points more likely to issue awards within the recommended period. We did not find a robust, statistically significant association between increased timeliness performance and other practices we analyzed. Because of other unmeasured characteristics, such as the large amount

³⁴[GAO-19-620](#).

³⁵Our analysis was subject to omitted variable bias because there may be other factors that affect timeliness that we may not have measured or included in the regression model. As a result, our analyses of these data, taken alone, do not establish whether these practices cause more or less timely processing of applications, but they provide evidence of whether there are differences in timeliness across the practices based on the data analyzed.

³⁶We defined statistical significance as having a p value less than 0.05 and only reported those practices for which the association was robust across different model specifications.

of variety found within each practice across participating agencies and other factors, we cannot infer causation or rule out other possible relationships between practices and timeliness.

Agency Comments and Our Evaluation

We provided a draft of this report to SBA and the 11 federal agencies that participated in the SBIR and STTR programs in fiscal years 2016 through 2019 for their review and comment. The SBA, Department of Defense, and Department of Education provided written comments that are reproduced in appendices I, II, and III. In addition, DHS, HHS, USDA, and the Navy and Defense Threat Reduction Agency within the Department of Defense provided technical comments, which we incorporated as appropriate. The remaining agencies told us they had no comments. In its formal comments, SBA stated that our report provides valuable insight into federal agencies' compliance with notification guidelines and award issuance recommendations.

In their comments, SBA and the Department of Defense suggested that we analyze phase I and II awards separately in future reports. In particular, the Department of Defense stated that SBA's SBIR/STTR policy directive recommends that most agencies issue phase I awards in no more than 180 calendar days from solicitation to close, and that proposal submission date should only be used to measure timeliness for certain phase II awards. The department also stated that timeliness for SBIR and STTR awards should be analyzed separately, since it can sometimes take significantly longer to award STTR projects due to the statutory requirement to have a signed partnership agreement with a university or research institution. We intend to explore these differences further in future reports. In particular, as stated above, we anticipate examining differences between phase I and phase II awards. For this report, we combined phase I and II awards because, according to SBA, the time periods in the SBIR/STTR policy directive for applicant notification and award issuance apply to both phase I and phase II awards. Moreover, in combining phase I and phase II awards, as well as SBIR and STTR awards, our report provides a comprehensive overview of agencies' timeliness that would not be provided through separate analyses based on the phase and type of award.

Additional considerations from the Department of Defense for our next report on timeliness of notification and issuance and our response include:

- The department stated that certain types of phase II follow-on projects should not be included in the analysis of phase II award

timeliness because such projects may not be awarded for several years after the end of an initial phase II contract. While we did not exclude such projects in our current report, we found that their inclusion did not significantly affect a key part of our analysis—the percentage of awardees notified within the required time period and percentage of awards issued within the recommended time—because agencies reported relatively few awards of this type.

- The department stated that its timeliness should not be compared to that of other participating agencies, given the volume of proposals the department receives. We present our analysis of the department’s timeliness alongside that of other participating agencies to address the John S. McCain National Defense Authorization Act for Fiscal Year 2019, which includes provisions for GAO to report annually for 4 years on the timeliness of participating agencies’ SBIR and STTR proposal review and award issuance. The act calls for GAO’s reports to compare the timeliness of each component of the Department of Defense with an SBIR or STTR program with the timeliness of other participating agencies.
- The department stated that the timeliness of a departmental component’s award issuance can be skewed if a different component or federal agency makes an award on behalf of the component funding the award. We note this in our report as a challenge to meeting the award issuance timeliness recommendation. In particular, officials of a component stated that they are dependent on other participating agencies within the department to review proposals and issue awards, which can result in delays.
- The department stated that, for the purpose of analyzing the timeliness of award issuance, its awards should be counted toward the fiscal year in which they are issued rather than the fiscal year of the solicitations under which awards are made. This is the methodology we used, as noted in our report. In addition, we only counted awards crossing fiscal years as late if they exceeded the award issuance timeliness recommendation.
- The department stated that continuing resolutions and the process of determining the SBIR and STTR budgets for each departmental component can result in delays in SBIR and STTR notifications and awards. We note continuing resolutions in our report as a

challenge to meeting the award issuance timeliness recommendation. In addition, in our September 2019 report on timeliness of SBIR and STTR awards, we discussed delays in determining the amount of funding available for small business as a factor described by agency officials that increased the time spent issuing awards.³⁷

In its comments, SBA also stated that it would like to see several other concerns addressed in our next report on timeliness of award notification and issuance. In particular, SBA suggested that we separate the analysis of award issuance by contract type, measure the time between the end of a phase I award and the start of the phase II award, further analyze practices that may be beneficial for timeliness and formalize them as best practices, and determine whether the Department of Defense has established the pilot program to accelerate its SBIR and STTR awards that is required under the John S. McCain National Defense Authorization Act for Fiscal Year 2019. We included an analysis of the effect select contract types have on award issuance in our September 2019 report on timeliness of SBIR and STTR award issuance.³⁸ In addition, we anticipate examining the time between phase I and phase II awards in future reports on the timeliness of SBIR and STTR awards. Finally, we anticipate addressing SBA's final two concerns as part of a report we plan to submit in December 2021 pursuant to the John S. McCain National Defense Authorization Act for Fiscal Year 2019. The act states that the report should identify best practices for shortening the proposal review and award times under the SBIR and STTR programs and analyze the efficacy of the Department of Defense pilot program.

We are sending copies of this report to the appropriate congressional committees and the SBA Administrator. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

³⁷[GAO-19-620](#).

³⁸[GAO-19-620](#).

If you or your staff 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. GAO staff who made key contributions to this report are listed in appendix IV.

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 James M. Inhofe
Chairman

The Honorable Jack Reed
Ranking Member
Committee on Armed Services
United States Senate

The Honorable Marco Rubio
Chairman

The Honorable Ben Cardin
Ranking Member
Committee on Small Business and Entrepreneurship
United States Senate

The Honorable Adam Smith
Chairman

The Honorable Mac Thornberry
Ranking Member
Committee on Armed Services
House of Representatives

The Honorable Nydia Velázquez
Chairwoman

The Honorable Steve Chabot
Ranking Member
Committee on Small Business
House of Representatives

Appendix I: Comments from Small Business Administration



U.S. Small Business
Administration

SBA Comments for GAO Draft Report 20-693

Small Business Research Programs (104035)

September 11, 2020

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 providing the U.S. Small Business Administration (SBA) with a copy of the Government Accountability Office (GAO) draft report titled: *"Small Business Research Programs: Many Agencies' Award Issuance Is Not Timely; Some Practices May Improve Timeliness (GAO-20-693)."*

The draft GAO report builds on its prior report and provides valuable insight into Federal agency compliance with notification guidelines and award issuance recommendations. However, the next report will be generally enhanced by measuring the gap between the end of a Phase I and the start of a Phase II award, identifying best practices for reducing award timelines and assessing where improvements are needed, and measuring the efficacy of the pilot program authorized by 15 U.S.C. § 638(hh)(2).

SBA would like to see the following concerns addressed in next year's report:

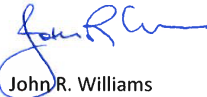
- 1) Separate the analysis on award issuance for Phase I and II awards, including by contract type. The draft report provides a footnote reference (28) that indicates different contract types impact timeliness of award issuance; an explicit analysis will provide valuable insights.
- 2) Measure the time between the end of a Phase I award and the start of the Phase II award. 15 U.S.C. § (hh)(2) requires DoD to shorten this timeline as a component of the pilot program, however, this requirement has not been analyzed within the report.
- 3) Document best practices as well as recommendations to reduce the relevant timelines. The report should formally identify best practices as required by 15 U.S.C. § 638(ii)(2)(B)(iii). The draft report identifies potential practices that may be beneficial (page 20) and these should be further analyzed and, as appropriate, formalized as best practices.

- 4) Determine if the Director of the Defense Procurement and Acquisition Policy, and DoD components, have established the pilot program required by 15 U.S.C. § 638(hh). The GAO reports have not reflected any engagement of individuals from the DoD procurement offices. The statute requires the pilot program to be “act[ed] through the Director of Defense Procurement and Acquisition Policy of the Department of Defense,” however, there is no indication that the acquisition and policy staff have been interviewed or engaged.

If you have any questions about these comments, please contact SBA’s GAO Liaison at (202) 205-7694, or email sba-gao-liaison@sba.gov.

Thank you for the opportunity to comment on this report and for taking our views into consideration.

Sincerely,



John R. Williams
Director
Office of Innovation and Technology

Appendix II: Comments from Department of Defense



RESEARCH
AND ENGINEERING

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

Mr. John Neumann
Managing Director, Science, Technology Assessment, and Analytics
U.S. Government Accountability Office
441 G Street, N.W.
Washington, DC 20548

Dear Mr. Neumann:

The Department of Defense (DoD) has reviewed the Government Accountability Office (GAO) Draft Report, GAO-20-693, "SMALL BUSINESS RESEARCH PROGRAMS: Many Agencies' Award Issuance Is Not Timely; Some Practices May Improve Timeliness" dated September 2020, and submits the following comments for consideration.

The DoD Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs are deceptively complex with many moving parts and nuances that impact the day-to-day operations of the programs DoD-wide. Reviews such as this are worthwhile to baseline performance and measure improvement, therefore, the following factors should be considered for the next analysis and report:

- a. The U.S. Small Business Administration (SBA) SBIR/STTR Policy Directive recommends that most agencies issue Phase I awards in no more than 180 calendar days from solicitation to close, and this report does not differentiate between Phase I and Phase II awards. This comment was provided last year, in response to GAO Report 19-620, and remains valid for the current Draft GAO Report 20-693.
- b. Phase I and Phase II award data should be analyzed separately in future GAO evaluations. This comment was provided in response to GAO Report 19-620, and remains valid for Draft GAO Report 20-693. Since the GAO's methodology has not changed for the current evaluation, the comment is expanded to emphasize that there is a definitive proposal submission deadline for Phase I and Direct-to-Phase II awards to measure timeliness. The proposal submission date should only be used to measure timeliness for the Phase II awards described below, in comment (c).
- c. The SBIR/STTR programs allow for second Phase II follow-on projects that may not be awarded for several years after the end of the initial Phase II contract; therefore, these awards, which are commonly referred to as "reach-backs" or "cross-agency awards," should not be included in the analysis of Phase II award timelines. If data pertaining to second Phase II follow-on projects is of interest, the GAO should perform a separate analysis. This comment was provided in response to GAO Report 19-620, and remains valid for Draft GAO Report 20-693.
- d. Timeliness for DoD's SBIR/STTR notifications and awards should not be compared to those of other Federal agencies since DoD receives more than twice the volume of proposals than does the next largest SBIR/STTR participant – the Department of Health and Human Services.

Appendix II: Comments from Department of Defense

- e. Timeliness for award for a specific Defense Agency or other DoD organization may be impacted if that Defense Agency does not make its own awards. For example, if the General Services Administration (GSA) makes an award on behalf of a DoD organization, those records would not be attributed to the DoD entity that funded the SBIR/STTR efforts. Similarly, if one DoD Component makes an award on behalf of another DoD Component, those records will be attributed to the awarding DoD Component instead of the funding Component, thus skewing the timeliness results for the funding Component.
- f. Timeliness for SBIR and STTR awards should be analyzed separately since it can sometimes take significantly longer to award STTR projects due to the statutory requirement to have a signed partnership agreement with a university or research institution.
- g. Timeliness for SBIR and STTR awards is impacted by topics that are selected for award from a Broad Agency Announcement (BAA) that was published in one fiscal year (FY), but under which awards are made in the following FY. For example, the 20.3 SBIR and 20.C STTR BAAs opened in FY 2020, but will close in FY 2021. Therefore, awards issued under the 20.3 SBIR and 20.C STTR BAAs should be considered in an evaluation of FY 2021 data, and not in an evaluation of FY 2020.
- h. Timeliness for SBIR and STTR notifications and awards is significantly delayed if the Defense Authorization and Appropriation bills are not enacted by 1 October of any FY, and when a Continuing Resolution (CR) is in effect. When the Department operates under a CR, DoD Components cannot obligate more than 80 percent of the amount appropriated in the previous fiscal year. Typically, only a small portion of the CR funding is made available to agencies and the SBIR/STTR programs must compete with other priorities for funding. Additionally, CRs can range from two weeks to several months, which increases the uncertainty of when and how much funding will be allocated for SBIR and STTR awards.
- i. Timeliness for SBIR and STTR notifications and awards is delayed by four months or more even if the Defense Authorization and Appropriation bills are enacted by 1 October of any FY due to the process of calculating the extramural budget and then determining the SBIR and STTR budgets for each DoD Component. Once each DoD Component receives its authorization and appropriation, funding is allocated to the hundreds of Research, Development, Test, and Evaluation (RDT&E) Program Elements (PEs) that are thereafter assessed the mandatory SBIR/STTR percentages.
- j. Department of the Navy-specific comments are included with this letter as Attachment 1.
- k. Defense Threat Reduction Agency comments are included with this letter as Attachment 2.

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

Sincerely,

Molly L Walsh

Molly L. Walsh
Director, Small Business and Technology
Partnerships

Attachments: as stated.

Appendix III: Comments from Department of Education



550 12th Street SW
Washington, DC 20202

September 10, 2020

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 Research Programs: Many Agencies Award Issuance Is Not Timely; Some Practices May Improve Timeliness* (GAO-20-693). The draft report found that the Department awarded 100 percent of Small Business Innovation Research (SBIR) program contracts within the required 180-day period and notified 100 percent of awardees within the required 90-day period.

We appreciate GAO's recognition of the Department's efforts to make awards as quickly as possible without sacrificing the Institute of Education Science's (IES) commitment to high standards for the scientific and technical review of proposals for funding.

Although the SBIR program is small relative to many other agencies, it supports the development of innovative education technology used in thousands of schools across the country. With so many schools delivering instruction online due to the COVID-19 pandemic, research-based education technology that supports distance learning has become even more important.

I am particularly proud of the collective efforts of our SBIR Program Manager, Dr. Edward Metz, and his business partners in the Department's Contracts and Acquisition Management (CAM), including Thomas Smith. IES effectively partners with CAM to ensure that our awards are made in a timely manner while at the same time providing expanded outreach to teachers and parents on the learning resources available through this program.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Schneider".

Mark Schneider
Director

Appendix IV: GAO Contact and Staff Acknowledgments

GAO Contact

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

Staff Acknowledgements

In addition to the contact named above, Joseph Cook (Assistant Director), Diantha Garms (Analyst-in-Charge), Nora Adkins, Jenny Chanley, Paul Kazemersky, Robert Letzler, Molly Ryan, and Ben Shouse made key contributions to this report.

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