



Testimony  
Before the Committee on Small  
Business and Entrepreneurship,  
U.S. Senate

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For Release on Delivery  
Expected at 9:30 a.m. PT  
Thursday, April 24, 2014

# SMALL BUSINESS RESEARCH PROGRAMS

## Agencies Did Not Consistently Comply with Spending and Reporting Requirements

Statement of John Neumann, Acting Director,  
Natural Resources and Environment

# GAO Highlights

Highlights of [GAO-14-567T](#), a testimony before the Committee on Small Business and Entrepreneurship, U.S. Senate

## Why GAO Did This Study

Federal agencies have awarded more than 156,000 contracts and grants, totaling nearly \$40 billion through the SBIR and STTR programs to small businesses to develop and commercialize innovative technologies. The Small Business Act mandates that agencies, with extramural R&D budgets that meet the thresholds for participation, must spend a percentage of these annual budgets on the two programs. The agencies are to report to SBA and SBA is to report to Congress.

This testimony is based on a report GAO issued in September 2013 and addresses for fiscal years 2006 through 2011, (1) the extent to which participating agencies complied with program spending requirements, (2) the extent to which participating agencies and SBA complied with certain reporting requirements, (3) the potential effects of basing the spending requirements for the SBIR and STTR programs on agencies' total R&D budgets instead of their extramural R&D budgets, and (4) what is known about the amounts participating agencies spent for administering the programs. For that report, GAO reviewed agency calculations of spending requirements and required reports, and interviewed SBA and participating agency officials.

## What GAO Recommends

GAO is not making any new recommendations, but made several to SBA in GAO's 2013 report on this topic. SBA agreed with those recommendations and is taking steps to implement them.

View [GAO-14-567T](#). For more information, contact John Neumann at (202) 512-3841 or [neumannj@gao.gov](mailto:neumannj@gao.gov).

April 24, 2014

## SMALL BUSINESS RESEARCH PROGRAMS

### Agencies Did Not Consistently Comply with Spending and Reporting Requirements

## What GAO Found

Using data agencies had reported to the Small Business Administration (SBA), GAO found in its 2013 report that 8 of the 11 agencies participating in the Small Business Innovation Research (SBIR) program and 4 of the 5 agencies participating in the Small Business Technology Transfer (STTR) program did not consistently comply with spending requirements for fiscal years 2006 to 2011. SBA, which oversees the programs, provided guidance in policy directives for agencies on calculating these requirements, but the directives did not provide guidance on calculating the requirements when appropriations are late and spending is delayed. Some SBIR and STTR program managers told GAO that it can be difficult to spend the required amount because delays in receiving final appropriations can delay agencies' awarding of contracts. As GAO found in its 2013 report, when appropriations were received late in the year agencies used differing methodologies to calculate their spending requirements, which made it difficult to determine whether agencies' calculations were correct. GAO found that, without further SBA guidance, agencies would likely continue calculating spending requirements in differing ways.

GAO also found in 2013 that the participating agencies and SBA had not consistently complied with certain program reporting requirements. For example, participating agencies did not itemize each program excluded from the calculation of their extramural research or research and development (R&D) budgets and explain why the program was excluded, as required. (Extramural R&D is generally conducted by nonfederal employees outside of federal facilities.) Also, SBA's annual reports to Congress that were available at the time of GAO's review contained limited analysis of the agencies' methodologies, often not including information on particular agencies. By providing more analysis of the agencies' reports, as GAO recommended in its 2013 report, SBA can provide information to Congress on the extent to which agencies were reporting what is required.

In 2013, GAO found that the potential effects of basing each participating agency's spending requirement on its total R&D budget instead of its extramural R&D budget would increase the amount of the spending requirement—for some agencies more than others, depending on how the change was implemented. Also, if the thresholds of the spending requirements for participation in the programs did not change, changing the base to an agency's total R&D budget would increase the number of agencies required to participate.

In addition, GAO found in 2013 that the agencies' cost of administering the programs could not be determined because the agencies had not consistently tracked costs as they were not required to do so by the authorizing legislation of the programs. Estimates agencies provided to GAO indicated that the greatest amounts of administrative costs in fiscal year 2011 were for salaries and expenses, contract processing, outreach programs, technical assistance programs, support contracts, and other purposes. With the start of a pilot program allowing agencies to use up to 3 percent of SBIR program funds for administrative costs in fiscal year 2013, SBA planned to require participating agencies to track and report administrative costs paid from program funds.

Chairwoman Cantwell, Ranking Member Risch, and Members of the Committee:

I am pleased to be here today to discuss federal agencies' compliance with spending and reporting requirements for the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs, as well as other aspects of the programs. Since the early 1980s, federal agencies have awarded more than 156,000 contracts and grants, totaling nearly \$40 billion, to small businesses to develop and commercialize innovative technologies. Federal agencies with a budget of \$100 million or more for extramural research or research and development (R&D) are required to establish and operate an SBIR program, while federal agencies with budgets of \$1 billion or more for extramural R&D are required to establish and operate an STTR program.<sup>1</sup> Currently, 11 agencies participate in the SBIR program and 5 of these agencies also participate in the STTR program, as shown in table 1.

**Table 1: Agencies Participating in the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs**

Agency	Program	
	SBIR	STTR
Department of Agriculture (USDA)	X	
Department of Commerce	X	
Department of Defense (DOD)	X	X
Department of Education	X	
Department of Energy (DOE)	X	X
Department of Health and Human Services (HHS)	X	X
Department of Homeland Security (DHS)	X	
Department of Transportation (DOT)	X	
Environmental Protection Agency (EPA)	X	
National Aeronautics and Space Administration (NASA)	X	X
National Science Foundation (NSF)	X	X

Source: Small Business Administration.

<sup>1</sup>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. Agencies are required to calculate their extramural R&D budgets by subtracting amounts obligated for intramural R&D from total obligations for R&D.

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The Small Business Administration's (SBA) Office of Investment and Innovation is responsible for overseeing and coordinating the participating agencies' efforts for the SBIR and STTR programs by setting overarching policy and issuing policy directives, collecting program data, reviewing agency progress, and reporting annually to Congress, among other responsibilities. Each participating agency must manage its SBIR and STTR programs in accordance with program laws, regulations, and policy directives issued by SBA.<sup>2</sup> Each participating agency has considerable flexibility to design and manage the specifics of these programs, such as determining research topics, selecting award recipients, and administering funding agreements.

The Small Business Act, which authorizes the programs, establishes the minimum percentage of an agency's extramural R&D budget that must be spent on the programs annually.<sup>3</sup> Participating agencies were required to spend at least 2.5 percent of their extramural R&D budgets on the SBIR program in fiscal years 1997 through 2011 and at least 0.3 percent of these budgets on the STTR program in fiscal years 2004 through 2011. The 2011 reauthorization of the programs increased these minimum percentages to 2.6 percent and 0.35 percent, respectively, for the SBIR and STTR programs in fiscal year 2012, with additional increases in future years.<sup>4</sup> SBA's SBIR and STTR policy directives require participating agencies to submit data to SBA each year on the amount of their extramural R&D budgets and the amount obligated for awards, among other information. The Small Business Act also establishes certain reporting requirements for participating agencies and SBA. Among other things, agencies are to report to SBA on their methodologies for calculating their extramural R&D budgets within 4 months of the enactment of their annual appropriations. Furthermore, SBA is to annually report to Congress on all participating agencies' SBIR and STTR programs.

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<sup>2</sup>As part of its oversight and coordination role, SBA issued SBIR and STTR policy directives in September 2002 and December 2005, respectively, and updated them in August 2012, January 2014, and February 2014.

<sup>3</sup>We refer to the amounts resulting from applying these mandated percentages to extramural R&D budgets as "spending requirements."

<sup>4</sup>National Defense Authorization Act for Fiscal Year 2012, Pub. L. No. 112-81, § 5102, 125 Stat. 1298,1824.

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In 2013, we reported on the participating agencies' compliance with spending and reporting requirements for the programs, as well as other aspects of the programs, for fiscal years 2006 through 2011.<sup>5</sup> We are currently examining these issues for fiscal year 2012, and we plan to report on our findings in June 2014. My testimony today focuses on our 2013 report and addresses, for fiscal years 2006 through 2011, (1) the extent to which participating agencies complied with program spending requirements, (2) the extent to which participating agencies and SBA complied with certain reporting requirements, (3) the potential effects of basing the spending requirements for the SBIR and STTR programs on agencies' total R&D budgets instead of their extramural R&D budgets, and (4) what is known about the amounts participating agencies spent for administering the programs.

To determine the extent to which participating agencies complied with the programs' spending requirements for our 2013 report, we compared spending requirements for fiscal years 2006 to 2011 with the amounts agencies reported spending in each annual report to SBA.<sup>6</sup> To determine the extent to which participating agencies and SBA complied with certain reporting requirements for calculating their extramural research budgets, we compared the agencies' methodology and annual reports to SBA and SBA's annual report to Congress for fiscal years 2006 to 2011, to the extent available, with requirements in the Small Business Act and the policy directives for the programs. To determine the potential effects of basing spending requirements for the SBIR and STTR programs on an agency's total R&D budget, we calculated potential spending requirements for each agency using data on total R&D budget authority

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<sup>5</sup>GAO, *Small Business Research Programs: Actions Needed to Improve Compliance with Spending and Reporting Requirements*, [GAO-13-421](#) (Washington, D.C.: Sept. 9, 2013).

<sup>6</sup>We used the agencies' obligations data to represent spending for the programs in part because obligations data were readily available from each of the agencies for program purposes, and obligations provided a reasonable measure of the spending for the programs in each year. We determined that an agency met its spending requirement if the agency's reported spending for these programs was equal to or greater than the reported spending requirement.

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from the President's budget.<sup>7</sup> We compared these potential spending requirements with the spending requirements under the current law to determine the potential effects of changing the methodology. To determine what is known about the amounts participating agencies spent for administering the programs, we collected existing administrative cost data directly from agencies and interviewed program and financial officials at each agency. We determined that the administrative cost data were too incomplete and from such varied sources that an assessment of the available data's reliability was not possible and we could not use the data in our report. More detail on our scope and methodology is included in that issued product. The work on which this testimony is based was conducted from April 2012 to August 2013 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.

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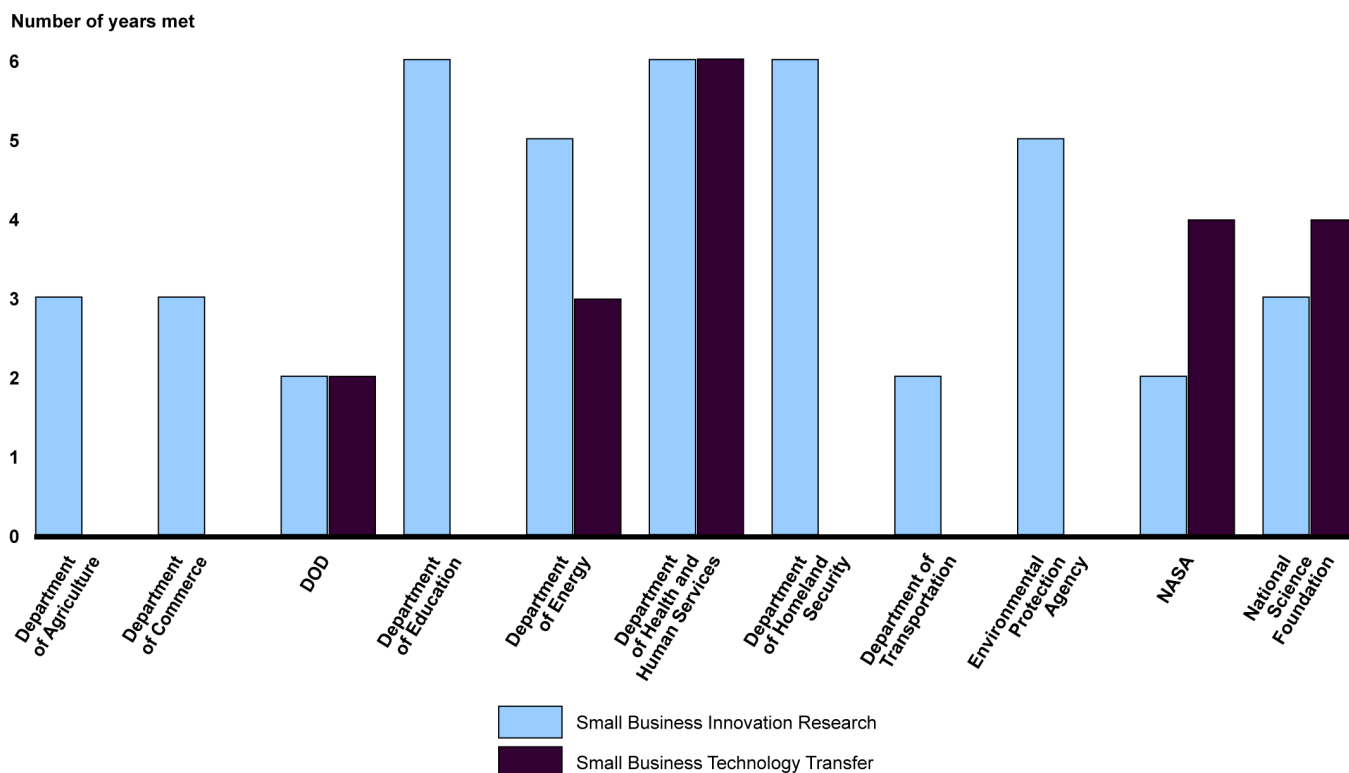
## Data Indicated Most Agencies Did Not Consistently Comply with Spending Requirements

In 2013, we found that most agencies did not comply with spending requirements for the SBIR or STTR programs in all 6 years, based on data the agencies submitted to SBA for fiscal years 2006 to 2011. Specifically, 8 of the 11 agencies did not consistently meet annual spending requirements for SBIR. Data from 3 of the agencies—DHS, Education, and HHS—indicated that they met their spending requirements for all 6 years. For STTR, 4 of 5 agencies did not consistently meet annual spending requirements. Data from 1 agency—HHS—indicated that it met its STTR spending requirements for all 6 years. Figure 1 shows the number of years that each agency complied with spending requirements for fiscal years 2006 through 2011. Additional data on each agency's spending on the programs is included in our 2013 report.

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<sup>7</sup>In calculating these potential spending requirements, we assumed that agencies would be required to spend 2.5 percent of their total R&D budget for the SBIR program and 0.3 percent for the STTR program. Additionally, we assumed that an agency with total annual R&D funding of \$100 million would be required to participate in the SBIR program, while an agency with total annual R&D funding of \$1 billion would be required to participate in both the SBIR and STTR programs.

**Figure 1: Number of Years Agencies Met Spending Requirements for the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs for Fiscal Years 2006 to 2011**



Sources: GAO analysis of agency annual report data submitted to SBA.

SBIR and STTR program managers identified reasons why spending the required amount in a given fiscal year could be difficult, which we described in our 2013 report. For example, in that report, we found that delays in receiving final appropriations can delay agencies' awarding of contracts for SBIR or STTR projects. Some program managers said that they tend to wait to award some grants and contracts until receiving their final appropriations in case the agency's extramural R&D budget—and, therefore, its SBIR or STTR spending requirement—differs significantly from the expected amount. Because the award process can be lengthy, a delay can push the awards and spending into the following fiscal year.

As we found in our 2013 report, when appropriations were received late in the year, agencies used differing methodologies to calculate their spending requirements, making it difficult to determine whether agencies'

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calculations were correct. Although SBA provided guidance in policy directives on calculating their spending requirements, we found that the policy directives did not provide guidance to agencies on how to calculate such spending requirements when agency appropriations are delayed. We found that, without such guidance, that agencies would likely continue to calculate spending requirements in differing ways. In our 2013 report, we recommended that SBA provide additional guidance on how agencies should calculate spending requirements when agency appropriations are received late in the fiscal year. SBA has since begun taking steps to address this recommendation.

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## Agencies and SBA Did Not Consistently Comply with Certain Reporting Requirements

We also found in 2013 that agencies participating in the SBIR and STTR programs did not consistently comply with requirements in the Small Business Act to annually report a description of their methodologies for calculating their extramural R&D budgets to SBA and that SBA did not consistently comply with the act's requirements for annually reporting to Congress.

With the exception of NASA in certain years, agencies did not submit their methodology reports to SBA within the time frame required by the Small Business Act for fiscal years 2006 through 2011 for the SBIR and STTR programs. As noted earlier, the act requires that agencies report to SBA their methodologies for calculating their extramural budgets within 4 months after the date of enactment of their respective appropriations acts.<sup>8</sup> However, most participating agencies documented their methodologies for calculating their extramural R&D budgets for these fiscal years and submitted them to SBA after the close of the fiscal year with their annual reports. SBA officials said that they did not hold the agencies to the act's deadline for submitting methodology reports, in part because delays in receiving annual appropriations pushed the required reporting date until late in the fiscal year and it was more convenient for agencies to submit their methodology reports with their annual reports. By not having the methodology reports earlier in the year as specified by law, however, SBA did not have an opportunity to analyze these methodologies and provide the agencies with timely feedback to assist agencies in accurately calculating their spending requirements. By not providing such feedback, SBA was forgoing the opportunity to assist

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<sup>8</sup>15 U.S.C. § 638(i)(2)(A).



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agencies in correctly calculating their program spending requirements and to help ensure that they spent the mandated amounts.

More significantly, we found in 2013 that the majority of the agencies did not include an itemization of each R&D program excluded from the calculation of the agency's extramural budget and a brief explanation of why it was excluded, as required. We found that it was difficult for SBA to comprehensively analyze the methodologies and determine whether agencies were accurately calculating their spending requirements without having more consistent information from agencies. We also found that agencies could have benefited from guidance on the format of methodology reports, and that without such guidance, participating agencies might continue to provide SBA with broad, incomplete, or inconsistent information about their methodologies and spending requirements. We recommended that SBA provide additional guidance to agencies on the format that they are to include in their methodology reports. We also recommended that SBA provide timely annual feedback to each agency following submission of its methodology report on whether its method for calculating the extramural R&D budget complies with program requirements, including an itemization of and an explanation for all exclusions from the basis for the calculations. SBA is in the process of taking steps to address these recommendations.

We also found in 2013 that SBA had not consistently complied with the requirement to report its analysis of the agencies' methodologies in its annual report to Congress,<sup>9</sup> as required by the Small Business Act.<sup>10</sup> Over the 6 years covered in our review, SBA reported to Congress for 3 of those; fiscal years 2006, 2007, and 2008.<sup>11</sup> We found that these reports contained limited analyses of the agencies' methodologies, and some of the analyses were inaccurate. For example, SBA's analysis was limited to a table attached to the annual report to Congress that often did not include information on particular agencies. In our 2013 report, we

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<sup>9</sup>The act directs that the SBA Administrator report not less than annually to the Committee on Small Business and Entrepreneurship of the Senate and to the Committee on Science and Technology and the Committee on Small Business of the House of Representatives.

<sup>10</sup>15 U.S.C. § 638(i)(2)(B).

<sup>11</sup>SBA issued its report on the programs for fiscal years 2009 through 2011 in December 2013, after we issued our 2013 report. See *SBA: The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Program Annual Report Fiscal Years 2009-2011* (Washington, D.C.: December 2013).

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found that, without more comprehensive analysis and accurate information on participating agencies in SBA's annual report, Congress did not have information on the extent to which agencies are reporting what is required by law. In that report, we recommended that SBA provide Congress with a timely annual report that includes a comprehensive analysis of the methodology each agency used for calculating the SBIR and STTR spending requirements, providing a clear basis for SBA's conclusions about whether these calculations meet program requirements. SBA is in the process of taking steps to address this recommendation.

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## Changing the Calculation Methodology Could Increase Spending Requirements and Participation

In 2013, we also found that changing the methodology to calculate the SBIR and STTR spending requirements based on each agency's total R&D budget instead of each agency's extramural R&D budget would increase the amount of each agency's spending requirement for the programs, some much more than others, depending on how the change was implemented. Also, such a change would increase the number of agencies that would be required to participate in the programs if the threshold for participating in the programs remained the same. For example, two additional agencies—the Departments of Veterans Affairs (VA) and the Interior—would have been required to participate in SBIR in fiscal year 2011 if total R&D budgets had been the criteria because these agencies reported total R&D budgets in excess of \$100 million.<sup>12</sup> For STTR, three additional agencies—Commerce, USDA, and VA—would also have been required to participate in the program for fiscal year 2011 if total R&D budgets had been the criteria because these agencies reported total R&D budgets in excess of \$1 billion.<sup>13</sup>

Some agencies told us in 2013 that changing the methodology to calculate the SBIR and STTR spending requirements could have effects on their R&D programs and create challenges. For example, changing the base would increase SBIR and STTR budgets and could result in reductions in certain types of intramural R&D, with corresponding reductions in full-time equivalent staffing of these programs. In addition,

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<sup>12</sup>Federal agencies with a budget of \$100 million or more for extramural R&D are required to establish and operate an SBIR program

<sup>13</sup>Federal agencies with budgets of \$1 billion or more for extramural R&D are required to establish and operate an STTR program.

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some agency officials said there would potentially be changes in the content of the agency's extramural R&D effort because of changes in the types of businesses that receive grants and contracts.

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## Administrative Costs Could Not Be Determined Because the Agencies Did Not Identify or Track All Costs

We found in 2013 that the participating agencies' cost of administering the SBIR and STTR programs could not be determined because the agencies neither collected that information nor had the systems to do so. Neither the authorizing legislation for the programs nor SBA policy directives require agencies to track and estimate all administrative costs, and neither the law nor the policy directives define these administrative costs. Estimates agencies provided for our report indicated that the greatest amounts of administrative costs in fiscal year 2011 were for salaries and expenses, contract processing, outreach programs, technical assistance programs, support contracts, and other purposes. With the implementation in 2013 of a pilot program allowing agencies under certain conditions to use up to 3 percent of SBIR program funds for certain administrative costs, SBA expected to require agencies in the pilot program to track and report the spending of that 3 percent but not all of their administrative costs.

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Chairwoman Cantwell, Ranking Member Risch, and Members of the Committee, this completes my prepared statement. I would be pleased to respond to any questions that you may have at this time.

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## GAO Contact and Staff Acknowledgments

If you or your staff have any questions about this testimony, please contact me at (202) 512-3841 or [neumannj@gao.gov](mailto:neumannj@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. GAO staff who made key contributions to this testimony are Hilary Benedict, Assistant Director; Antoinette Capaccio; Cindy Gilbert; Rebecca Makar; Cynthia Norris; and Daniel Semick.

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