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February 2017

HIGH-RISK SERIES

Progress on Many High-Risk Areas, While Substantial Efforts Needed on Others

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GAO-17-317

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GAO Highlights

Highlights of GAO-17-317, a report to congressional committees

Why GAO Did This Study

The federal government is one of the world's largest and most complex entities: about $3.9 trillion in outlays in fiscal year 2016 funded a broad array of programs and operations. GAO's high-risk program identifies government operations with greater vulnerabilities to fraud, waste, abuse, and mismanagement or the need for transformation to address economy, efficiency, or effectiveness challenges.

This biennial update describes the status of high-risk areas listed in 2015 and actions that are still needed to assure further progress, and identifies new high-risk areas needing attention by Congress and the executive branch. Solutions to high-risk problems potentially save billions of dollars, improve service to the public, and strengthen government performance and accountability.

GAO uses five criteria to assess progress in addressing high-risk areas: (1) leadership commitment, (2) agency capacity, (3) an action plan, (4) monitoring efforts, and (5) demonstrated progress.

What GAO Recommends

This report contains GAO's views on progress made and what remains to be done to bring about lasting solutions for each high-risk area. Perseverance by the executive branch in implementing GAO's recommended solutions and continued oversight and action by Congress are essential to achieving greater progress.

View GAO-17-317. For more information, contact J. Christopher Mihm at (202) 512-6806 or mihmj@gao.gov.

What GAO Found

Since GAO's last high-risk update, many of the 32 high-risk areas on the 2015 list have shown solid progress. Twenty-three high-risk areas, or two-thirds of all the areas, have met or partially met all five criteria for removal from the High-Risk List; 15 of these areas fully met at least one criterion. Progress has been possible through the concerted efforts of Congress and leadership and staff in agencies. For example, Congress enacted over a dozen laws since GAO's last report in February 2015 to help address high-risk issues.

GAO removed 1 high-risk area on managing terrorism-related information, because significant progress had been made to strengthen how intelligence on terrorism, homeland security, and law enforcement is shared among federal, state, local, tribal, international, and private sector partners. Sufficient progress was made to remove segments of 2 areas related to supply chain management at the Department of Defense (DOD) and gaps in geostationary weather satellite data.

Two high-risk areas expanded—DOD's polar-orbiting weather satellites and the Department of the Interior's restructuring of offshore oil and gas oversight. Several other areas need substantive attention including VA health care, DOD financial management, ensuring the security of federal information systems and cyber critical infrastructure, resolving the federal role in housing finance, and improving the management of IT acquisitions and operations.

GAO is adding 3 areas to the High-Risk List, bringing the total to 34:

- **Management of Federal Programs That Serve Tribes and Their Members.** GAO has reported that federal agencies, including the Department of the Interior's Bureaus of Indian Education and Indian Affairs and the Department of Health and Human Services' Indian Health Service, have ineffectively administered Indian education and health care programs and inefficiently developed Indian energy resources. Thirty-nine of 41 GAO recommendations on this issue remain unimplemented.
- **U.S. Government's Environmental Liabilities.** In fiscal year 2016 this liability was estimated at $447 billion (up from $212 billion in 1997). The Department of Energy is responsible for 83 percent of these liabilities and DOD for 14 percent. Agencies spend billions each year on environmental cleanup efforts but the estimated environmental liability continues to rise. Since 1994, GAO has made at least 28 recommendations related to this area; 13 are unimplemented.
- **The 2020 Decennial Census.** The cost of the census has been escalating over the last several decennials; the 2010 Census was the costliest U.S. Census in history at about $12.3 billion, about 31 percent more than the 2000 Census (in 2020 dollars). The U.S. Census Bureau (Bureau) plans to implement several innovations—including IT systems—for the 2020 Census. Successfully implementing these innovations, along with other challenges, risk the Bureau's ability to conduct a cost-effective census. Since 2014, GAO has made 30 recommendations related to this area; however, only 6 have been fully implemented.

GAO's 2017 High-Risk List

Strengthening the Foundation for Efficiency and Effectiveness • Strategic Human Capital Management[a] • Managing Federal Real Property • Funding the Nation's Surface Transportation System[a] • Modernizing the U.S. Financial Regulatory System and the Federal Role in Housing Finance[a] • Restructuring the U.S. Postal Service to Achieve Sustainable Financial Viability[a] • Management of Federal Oil and Gas Resources • Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks • Improving the Management of IT Acquisitions and Operations • Improving Federal Programs that Serve Tribes and their Members (new)[a] • 2020 Decennial Census (new) • U.S. Government Environmental Liabilities (new)[a]
Transforming DOD Program Management • DOD Supply Chain Management • DOD Weapon Systems Acquisition • DOD Financial Management • DOD Business Systems Modernization • DOD Support Infrastructure Management[a] • DOD Approach to Business Transformation
Ensuring Public Safety and Security • Ensuring the Security of Federal Information Systems and Cyber Critical Infrastructure and Protecting the Privacy of Personally Identifiable Information[a] • Strengthening Department of Homeland Security Management Functions • Ensuring the Effective Protection of Technologies Critical to U.S. National Security Interests[a] • Improving Federal Oversight of Food Safety[a] • Protecting Public Health through Enhanced Oversight of Medical Products • Transforming EPA's Processes for Assessing and Controlling Toxic Chemicals • Mitigating Gaps in Weather Satellite Data
Managing Federal Contracting More Effectively • DOE's Contract Management for the National Nuclear Security Administration and Office of Environmental Management • NASA Acquisition Management • DOD Contract Management[a]
Assessing the Efficiency and Effectiveness of Tax Law Administration • Enforcement of Tax Laws[a]
Modernizing and Safeguarding Insurance and Benefit Programs • Medicare Program[a] • Medicaid Program[a] • Improving and Modernizing Federal Disability Programs • Pension Benefit Guaranty Corporation Insurance Programs[a] • National Flood Insurance Program[a] • Managing Risks and Improving VA Health Care[a]

Source: GAO. | GAO-17-317

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

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U.S. GOVERNMENT ACCOUNTABILITY OFFICE
441 G St. N.W.
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Comptroller General
of the United States

February 15, 2017

The Honorable Ron Johnson Chairman The Honorable Claire McCaskill Ranking Member Committee on Homeland Security and Governmental Affairs United States Senate

The Honorable Jason Chaffetz Chairman The Honorable Elijah E. Cummings Ranking Member Committee on Oversight and Government Reform House of Representatives

Since the early 1990s, our high-risk program has focused attention on government operations with greater vulnerabilities to fraud, waste, abuse, and mismanagement or that are in need of transformation to address economy, efficiency, or effectiveness challenges. This effort, supported by the Senate Committee on Homeland Security and Governmental Affairs and by the House of Representatives Committee on Oversight and Government Reform, has brought much-needed attention to problems impeding effective government and costing billions of dollars each year.

To help improve these high-risk operations, we have made hundreds of recommendations. Executive agencies either have addressed or are addressing many of them and, as a result, progress is being made in a number of areas. Congress also continues to take important actions. For example, Congress enacted over a dozen laws since our last report in February 2015 to help make progress on high-risk issues. Progress in high-risk areas over the past decade (fiscal year 2007 through fiscal year 2016) resulted in financial benefits totaling approximately $240 billion or an average of about $24 billion per year.[1]

This report describes (1) progress made addressing high-risk areas and the reasons for that progress, and (2) actions that are still needed to assure further progress. It also identifies three new high-risk areas, which include the management of federal programs that serve tribes and their members, the federal government's environmental liabilities, and the 2020 Census.

[1]Financial benefits are based on actions taken in response to our work, such as reducing government expenditures, increasing revenues, or reallocating funds to other areas.

High-Risk Areas Making Progress

Since our last high-risk update, while progress has varied, many of the 32 high-risk areas on our 2015 list have shown solid progress. One area related to sharing and managing terrorism-related information is now being removed from the list.

Agencies can show progress by addressing our five criteria for removal from the list: leadership commitment, capacity, action plan, monitoring, and demonstrated progress.[2] As shown in table 1, 23 high-risk areas, or two-thirds of all the areas, have met or partially met all five criteria for removal from our High-Risk List; 15 of these areas fully met at least one criterion. Compared with our last assessment, 11 high-risk areas showed progress in one or more of the five criteria. Two areas declined since 2015. These changes are indicated by the up and down arrows in table 1.

Table 1: 2015 High-Risk Areas Rated Against Five Criteria for Removal from GAO's High-Risk List

(↑ indicates one or more areas progressed; ↓ indicates one or more areas declined since 2015.)

High-risk area	Change since 2015	Number of criteria		
		Met	Partially met	Not met
Establishing Effective Mechanisms for Sharing and Managing Terrorism-Related Information to Protect the Homeland	progressed	5	0	0
NASA Acquisition Management	NA	3	2	0
Strengthening Department of Homeland Security Management Functions	progressed	3	2	0
Department of Defense (DOD) Supply Chain Management	progressed	3	2	0
Mitigating Gaps in Weather Satellite Data	progressed	3	2	0
Protecting Public Health through Enhanced Oversight of Medical Products	declined	1	4	0
DOD Contract Management	NA	1	4	0
DOD Weapon Systems Acquisition	NA	1	4	0
Medicare Program[a]	NA	1	4	0
Enforcement of Tax Laws	Progressed	1	4	0
Managing Federal Real Property	Progressed	1	4	0
Transforming the Environmental Protection Agency's (EPA) Processes for Assessing and Controlling Toxic Chemicals	Progressed	1	4	0
Improving the Management of IT Acquisitions and Operations	NA	1	4	0

[2]Additional detail on our high-risk criteria and ratings is in appendix I.

High-risk area	Change since 2015	Number of criteria		
		Met	Partially met	Not met
Ensuring the Security of Federal Information Systems and Cyber Critical Infrastructure and Protecting the Privacy of Personally Identifiable Information	NA	1	4	0
DOD Approach to Business Transformation	Progressed	1	4	0
Strategic Human Capital Management	Progressed	1	3	1
DOE's Contract Management for the National Nuclear Security Administration and Office of Environmental Management	Progressed	1	2	2
Management of Federal Oil and Gas Resources	Declined	0	5	0
DOD Support Infrastructure Management	NA	0	5	0
Ensuring the Effective Protection of Technologies Critical to U.S. National Security Interests	NA	0	5	0
Improving and Modernizing Federal Disability Programs	NA	0	5	0
Modernizing the U.S. Financial Regulatory System and the Federal Role in Housing Finance	NA	0	5	0
National Flood Insurance Program	NA	0	5	0
Restructuring the U.S. Postal Service to Achieve Sustainable Financial Viability	NA	0	5	0
Medicaid Program[a]	NA	0	5	0
Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks	Progressed	0	4	1
DOD Business Systems Modernization	NA	0	4	1
DOD Financial Management	NA	0	3	2
Improving Federal Oversight of Food Safety	NA	0	3	2
Managing Risks and Improving VA Health Care	NA	0	2	3
Funding the Nation's Surface Transportation System	NA	N/A	N/A	N/A
Pension Benefit Guaranty Corporation Insurance Programs	NA	N/A	N/A	N/A

Legend: N/A = Not applicable.

Source: GAO. | GAO-17-317

Notes: Two high-risk areas received a "not applicable" rating because addressing them primarily involves congressional action (Funding the Nation's Surface Transportation System and Pension Benefit Guaranty Corporation Insurance Programs).

[a]Medicare and Medicaid programs only refer to the Improper Payments programs and we did not rate other elements of the Medicare and Medicaid programs.

High-Risk Areas Showing Progress

Of the 11 high-risk areas showing progress between 2015 and 2017, sufficient progress was made in 1 area—Establishing Effective Mechanisms for Sharing and Managing Terrorism-Related Information to Protect the Homeland—to be removed from the list. In two other areas, enough progress was made that we removed a segment of the high-risk

area—Mitigating Gaps in Weather Satellite Data and Department of Defense (DOD) Supply Chain Management. The other eight areas improved in at least one criterion rating by either moving from “not met” to “partially met” or from “partially met” to “met.”

One High-Risk Designation Removed

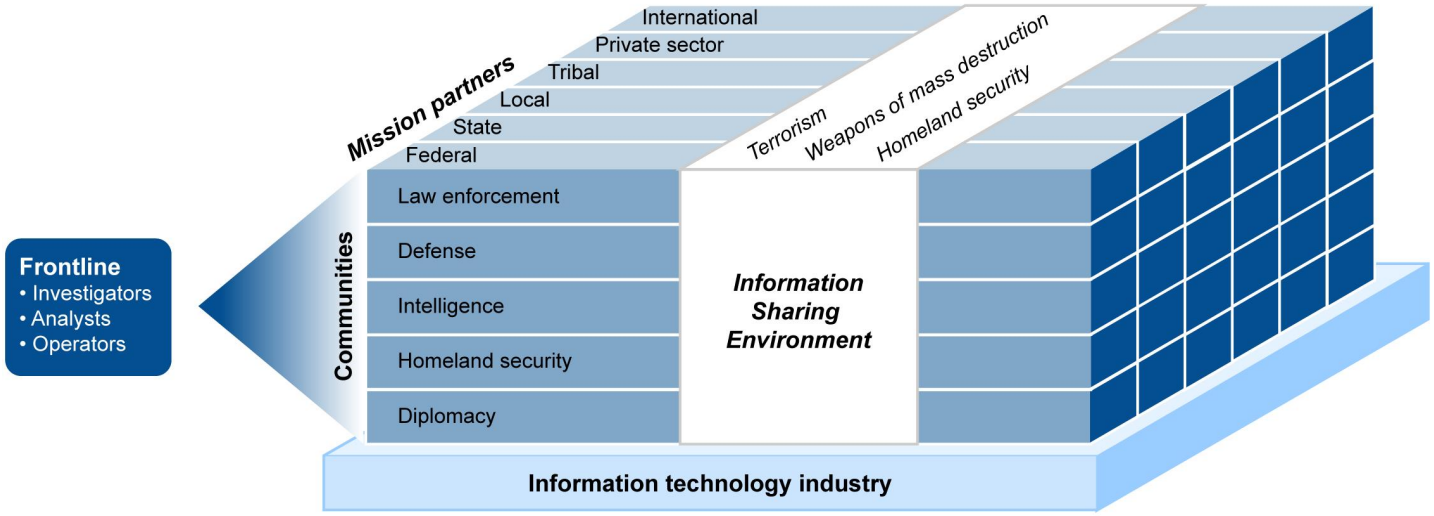
We removed the area of Establishing Effective Mechanisms for Sharing and Managing Terrorism-Related Information to Protect the Homeland from the High-Risk List because the Program Manager for the Information Sharing Environment (ISE) and key departments and agencies have made significant progress to strengthen how intelligence on terrorism, homeland security, and law enforcement, as well as other information (collectively referred to in this section as terrorism-related information), is shared among federal, state, local, tribal, international, and private-sector partners. As a result, the Program Manager and key stakeholders have met all five criteria for addressing our high-risk designation, and we are removing this issue from our High-Risk List. While this progress is commendable, it does not mean the government has eliminated all risk associated with sharing terrorism-related information. It remains imperative that the Program Manager and key departments and agencies continue their efforts to advance and sustain ISE. Continued oversight and attention is also warranted given the issue’s direct relevance to homeland security as well as the constant evolution of terrorist threats and changing technology.

The Program Manager, the individual responsible for planning, overseeing, and managing ISE, along with the key departments and agencies—the Departments of Homeland Security (DHS), Justice (DOJ), State (State), and Defense (DOD), and the Office of the Director of National Intelligence (ODNI)—are critical to implementing and sustaining ISE.[3] Following the terrorist attacks of 2001, Congress and the executive branch took numerous actions aimed explicitly at establishing a range of new measures to strengthen the nation’s ability to identify, detect, and deter terrorism-related activities. For example, ISE was established in accordance with the Intelligence Reform and Terrorism Prevention Act of

[3]The Office of the Program Manager for ISE is situated within and funded through amounts appropriated to ODNI. Additional departments and agencies also participate in ISE, including Air Force Intelligence, Surveillance, and Reconnaissance; Central Intelligence Agency; the Departments of Commerce, Energy, Health and Human Services, the Interior, Transportation, and the Treasury; National Counterterrorism Center; National Geospatial-Intelligence Agency; and National Reconnaissance Office.

2004 (Intelligence Reform Act) to facilitate the sharing of terrorism-related information.[4] Figure 1 depicts the relationship between the various stakeholders and disciplines involved with the sharing and safeguarding of terrorism-related information through ISE.

Figure 1: Elements of the Information Sharing Environment



Source: Office of the Program Manager for the Information Sharing Environment. | GAO-17-317

The Program Manager and key departments and agencies met the leadership commitment and capacity criteria in 2015, and have subsequently sustained efforts in both these areas. For example, the Program Manager clearly articulated a vision for ISE that reflects the government's terrorism-related information sharing priorities. Key departments and agencies also continued to allocate resources to operations that improve information sharing, including developing better technical capabilities.

The Program Manager and key departments and agencies also developed, generally agreed upon, and executed the 2013 Strategic Implementation Plan (Implementation Plan), which includes the overall strategy and more specific planning steps to achieve ISE. Further, they have demonstrated that various information-sharing initiatives are being used across multiple agencies as well as state, local, and private sector stakeholders. For example, the project manager has developed a

[4]See Pub. L. No. 108-458, § 1016, 118 Stat. 3638, 3664-70 (2004) *at* 6 U.S.C. § 485. See also 6 U.S.C. § 482 (requiring the establishment of procedures for the sharing of homeland security information).

comprehensive framework for managing enterprise architecture to help share and integrate terrorism-related information among multiple stakeholders in ISE.[5] Specifically, the Project Interoperability initiative includes technical resources and other guidance that promote greater information system compatibility and performance.[6] Furthermore, the key departments and agencies have applied the concepts of the Project Interoperability Initiative to improve mission operations by better linking different law enforcement databases, and facilitating better geospatial analysis, among other things.

In addition, the Program Manager and key departments and agencies have continued to devise and implement ways to measure the effect of ISE on information sharing to address terrorist and other threats to the homeland. They developed performance metrics for specific information-sharing initiatives (e.g., fusion centers) used by various stakeholders to receive and share information. The Program Manager and key departments and agencies have also documented mission-specific accomplishments (e.g., related to maritime domain awareness) where the Program Manager helped connect previously incompatible information systems. The Program Manager has also partnered with DHS to create an Information Sharing Measure Development Pilot that intends to better measure the effectiveness of information sharing across all levels of ISE.

Further, the Program Manager and key departments and agencies have used the Implementation Plan to track progress, address challenges, and substantially achieve the objectives in the National Strategy for

[5]An enterprise architecture, or modernization blueprint, is intended to provide a clear and comprehensive picture of an entity, whether it is an organization (e.g., federal department or agency) or a functional or mission area that cuts across more than one organization (e.g., financial management). This picture consists of snapshots of the enterprise's current and target operational and technological environments, and contains a road map for transitioning from the current to the target environment.

[6]Project Interoperability refers to a collection of policies and guidance related to information interoperability. Information interoperability is the ability to share and use information in a consistent, efficient way across multiple organizations and IT systems to accomplish operational missions. From a technical perspective, interoperability is developed in part by using common technical standards and definitions to manage information.

Information Sharing and Safeguarding.[7] The Implementation Plan contains 16 priority objectives, and by the end of fiscal year 2016, 13 of the 16 priority objectives were completed. The Program Manager transferred the remaining three objectives, which were all underway, to other entities with the appropriate technical expertise to continue implementation through fiscal year 2019.

In our 2013 high-risk update, we listed nine action items that were critical for moving ISE forward. In that report, we determined that two of those action items—demonstrating that the leadership structure has the needed authority to leverage participating departments, and updating the vision for ISE—had been completed. In our 2015 update, we determined that the Program Manager and key departments had achieved four of the seven remaining action items—demonstrating that departments are defining incremental costs and funding; continuing to identify technological capabilities and services that can be shared collaboratively; demonstrating that initiatives within individual departments are, or will be, leveraged to benefit all stakeholders; and demonstrating that stakeholders generally agree with the strategy, plans, time frames, responsibilities, and activities for substantially achieving ISE.

For the 2017 update, we determined that the remaining three action items have been completed: establishing an enterprise architecture management capability; demonstrating that the federal government can show, or is more fully developing a set of metrics to measure, the extent to which sharing has improved under ISE; and demonstrating that established milestones and time frames are being used as baselines to track and monitor progress. Achieving all nine action items has, in effect, addressed our high-risk criteria.

While this demonstrates significant and important progress, sharing terrorism-related information remains a constantly evolving work in progress that requires continued effort and attention from the Program Manager, departments, and agencies. Although no longer a high-risk

[7]Office of the Program Manager for the Information Sharing Environment, *Strategic Implementation Plan for the National Strategy for Information Sharing and Safeguarding* (Washington, D.C.: December 2013). In December 2012, the President signed the National Strategy for Information Sharing and Safeguarding, which provides guidance on implementing policies, standards, and technologies that promote secure and responsible national security information sharing. This document builds on the 2010 National Security Strategy and the 2007 National Strategy for Information Sharing. The December 2012 national strategy identifies priority objectives, which have been incorporated into the Implementation Plan.

issue, sharing terrorism-related information remains an area with some risk, and continues to be vitally important to homeland security, requiring ongoing oversight as well as continuous improvement to identify and respond to changing threats and technology. Table 2 summarizes the Program Manager's and key departments' and agencies' progress in achieving the action items.

Table 2: Status of Action Items Required to Remove Terrorism-Related Information Sharing from GAO's High-Risk List

Action items	Action item status	High-risk category
Demonstrate that the Information Sharing and Access Interagency Policy Committee has needed authority, is leveraging participating departments, and is producing results.	Met[a]	Leadership Commitment
Update the vision for ISE—the information sharing capabilities and procedures that need to be in place to help ensure terrorism-related information is accessible and identifiable to relevant federal, state, local, private, and foreign partners.	Met[a]	Leadership Commitment
Demonstrate that departments are defining incremental costs and funding needed to complete the responsibilities and activities which substantially achieve ISE.	Met[b]	Capacity to resolve risk
Continue to identify technological capabilities and services that can be shared collaboratively within and across ISE, consistent with a federated architecture approach.	Met[b]	Capacity to resolve risk
Demonstrate that initiatives within individual departments are, or will be, leveraged to benefit all relevant federal, state, local, and private security stakeholders participating in ISE.	Met[b]	Action plans that provide corrective measures
Establish an enterprise architecture management capability and demonstrate that it will be used to guide selection of projects for substantially achieving ISE.	Met	Action plans that provide corrective measures
Demonstrate that stakeholders generally agree with the strategy, plans, time frames, their responsibilities, and their activities for substantially achieving ISE.	Met[b]	Action plans that provide corrective measures
Demonstrate that the federal government can show the extent to which sharing has improved under ISE, or can show it has actions underway to more fully develop a set of metrics and processes to measure results achieved, both from individual projects and activities, as well as from the overall ISE.	Met	Monitor and validate the effectiveness of corrective measures
Demonstrate that established milestones and time frames are being used as baselines to track and monitor progress on individual projects and in substantially achieving the overall ISE.	Met	Demonstrated Progress

Source: GAO analysis of Office of the Program Manager for the Information Sharing Environment and key department documents, interviews, and prior GAO reports. | GAO-17-317

[a]We determined that these action items were complete in our 2013 high-risk update.

[b]We determined that these action items were complete in our 2015 high-risk update.

As we have with areas previously removed from the High-Risk List, we will continue to monitor this area, as appropriate, to ensure that the improvements we have noted are sustained. If significant problems again arise, we will consider reapplying the high-risk designation.

Additional Information on Establishing Effective Mechanisms for Sharing and Managing Terrorism-Related Information to Protect the Homeland is provided on page 653 of this report.

Two High-Risk Areas Narrowed

In the 2 years since our last high-risk update, sufficient progress has been made in two areas—DOD Supply Chain Management and Mitigating Gaps in Weather Satellite Data—that we are narrowing their scope.

DOD Supply Chain Management

DOD manages about 4.9 million secondary inventory items, such as spare parts, with a reported value of approximately $91 billion as of September 2015. Since 1990, DOD's inventory management has been included on our High-Risk List due to the accumulation of excess inventory and weaknesses in demand forecasting for spare parts. In addition to DOD's inventory management, the supply chain management high-risk area focuses on materiel distribution and asset visibility within DOD. Based on DOD's leadership commitment and demonstrated progress to address weaknesses since 2010, we are removing the inventory management component from the supply chain management high-risk area. Specifically, DOD has taken the following actions:

- Implemented a congressionally-mandated inventory management corrective action plan and institutionalized a performance management framework, including regular performance reviews and standardized metrics. DOD has also developed and begun implementing a follow-on improvement plan.[8]
- Reduced the percentage and value of its "on-order excess inventory" (i.e., items already purchased that may be excess due to subsequent changes in requirements) and "on-hand excess inventory" (i.e., items categorized for potential reuse or disposal). DOD's data show that the proportion of on-order excess inventory to the total amount of on-order inventory decreased from 9.5 percent at the end of fiscal year 2009 to 7 percent at the end of fiscal year 2015, the most recent fiscal year for which data are available. During these years, the value of on-order excess inventory also decreased from $1.3 billion to $701 million. DOD's data show that the proportion of on-hand excess inventory to the total amount of on-hand inventory dropped from 9.4 percent at the end of fiscal year 2009 to 7.3 percent at the end of

[8]The National Defense Authorization Act for Fiscal Year 2010 required the Secretary of Defense to submit to congressional defense committees a comprehensive plan for improving the inventory management systems of the military departments, and DLA with the objective of reducing the acquisition and storage of secondary inventory that is excess to requirements. Pub. L. No. 111-84 § 328 (2009).

fiscal year 2015. The value of on-hand excess inventory also decreased during these years from $8.8 billion to $6.8 billion.

- Implemented numerous actions to improve demand forecasting and began tracking department-wide forecasting accuracy metrics in 2013, resulting in forecast accuracy improving from 46.7 percent in fiscal year 2013 to 57.4 percent in fiscal year 2015, the latest fiscal year for which complete data are available.
- Implemented 42 of our recommendations since 2006 and is taking actions to implement an additional 13 recommendations, which are focused generally on reassessing inventory goals, improving collaborative forecasting, and making changes to information technology (IT) systems used to manage inventory.

Additional information on DOD Supply Chain Management is provided on page 248 of this report.

Mitigating Gaps in Weather Satellite Data

The United States relies on two complementary types of satellite systems for weather observations and forecasts: (1) polar-orbiting satellites that provide a global perspective every morning and afternoon, and (2) geostationary satellites that maintain a fixed view of the United States. Both types of systems are critical to weather forecasters, climatologists, and the military, who map and monitor changes in weather, climate, the oceans, and the environment. Federal agencies are planning or executing major satellite acquisition programs to replace existing polar and geostationary satellite systems that are nearing or beyond the end of their expected life spans. The Department of Commerce's National Oceanic and Atmospheric Administration (NOAA) is responsible for the polar satellite program that crosses the equator in the afternoon and for the nation's geostationary weather satellite program; DOD is responsible for the polar satellite program that crosses the equator in the early morning orbit.

Over the last several years, we have reported on the potential for a gap in satellite data between the time that the current satellites are expected to reach the end of their lifespans, and the time when the next satellites are expected to be in orbit and operational. We added this area to our High-Risk List in 2013. According to NOAA program officials, a satellite data gap would result in less accurate and timely weather forecasts and warnings of extreme events—such as hurricanes, storm surges, and floods. Such degraded forecasts and warnings would endanger lives, property, and our nation's critical infrastructures. Similarly, according to

DOD officials, a gap in space-based weather monitoring capabilities could affect the planning, execution, and sustainment of U.S. military operations around the world. In our prior high-risk updates, we reported on NOAA's efforts to mitigate the risk of a gap in its polar and geostationary satellite programs.

With strong congressional support and oversight, NOAA has made significant progress in its efforts to mitigate the potential for gaps in weather satellite data on its geostationary weather satellite program. Specifically, the agency demonstrated strong leadership commitment to mitigating potential gaps in geostationary satellite data by revising and improving its gap mitigation/contingency plans. Previously, in December 2014, we reported on shortfalls in the satellite program's gap mitigation/contingency plans and made recommendations to NOAA to address these shortfalls.[9] For example, we noted that the plan did not sufficiently address

- strategies for preventing a launch delay,
- timelines and triggers to prevent a launch delay, and
- whether any of its mitigation strategies would meet minimum performance levels.

NOAA agreed with these recommendations and released a new version of its geostationary satellite contingency plan in February 2015 that addressed the recommendations, thereby meeting the criterion for having an action plan.

We rated capacity as partially met in our 2015 report due to concerns about NOAA's ability to complete critical testing activities because it was already conducting testing on a round-the-clock, accelerated schedule. Since then, NOAA adjusted its launch schedule to allow time to complete critical integration and testing activities. In doing so, the agency demonstrated that it met the capacity criterion.

NOAA has also met the criterion for demonstrating progress by mitigating schedule risks and successfully launching the satellite. In September 2013, we reported that the agency had weaknesses in its schedule-management practices on its core ground system and spacecraft. We made recommendations to address those weaknesses, which included

[9]GAO, *Geostationary Weather Satellites: Launch Date Nears, but Remaining Schedule Risks Need to be Addressed,* GAO-15-60 (Washington, D.C.: Dec. 16, 2014).

sequencing all activities, ensuring there are adequate resources for the activities, and analyzing schedule risks. NOAA agreed with the recommendations and the Geostationary Operational Environmental Satellite-R series (GOES-R) program improved its schedule management practices. By early 2016, the program had improved the links between remaining activities on the spacecraft schedule, included needed schedule logic for a greater number of activities on the ground schedule, and included indications on the ground schedule that the results of a schedule risk analysis were used in calculating its durations. In addition, the program successfully launched the GOES-R satellite in November 2016.

Oversight by Congress has been instrumental in reducing the risk of geostationary weather satellite gaps. For example, Subcommittees of the House Science, Space, and Technology committee held multiple hearings to provide oversight of the satellite acquisition and the risk of gaps in satellite coverage.

As a result, the agency now has a robust constellation of operational and backup satellites in orbit and has made significant progress in addressing the risk of a gap in geostationary data coverage. Accordingly, there is sufficient progress to remove this segment from the high-risk area.[10]

Additional information on Mitigating Gaps in Weather Satellite Data is provided on pages 19 and 430 of this report.

Progress in Other Areas

Below are selected examples of areas where progress has been made.

- **Strengthening Department of Homeland Security Management Functions.** The Department of Homeland Security (DHS) continues to strengthen and integrate its management functions and progressed from partially met to met for the monitoring criterion. Since our 2015 high-risk update, DHS has strengthened its monitoring efforts for financial system modernization programs by entering into a contract for independent verification and validation services to help ensure that the modernization projects meet key requirements. These programs are key to effectively supporting the department's financial management operations.

[10]While we removed this segment from the High-Risk List, we added another segment in this area—*DOD's Polar-Orbiting Weather Satellites*. See page 19.

Additionally, DHS continued to meet the criteria for leadership commitment and a corrective action plan. DHS's top leadership has demonstrated exemplary support and a continued focus on addressing the department's management challenges by, among other things, issuing 10 updated versions of DHS's initial January 2011 *Integrated Strategy for High Risk Management*.

The National Defense Authorization Act for Fiscal Year 2017 reinforces this focus with the inclusion of a mandate that the DHS Under Secretary for Management report to us every 6 months to demonstrate measurable, sustainable progress made in implementing DHS's corrective action plans to address the high-risk area, until we submit written notification of the area's removal from the High-Risk List to the appropriate congressional committees.[11] Similar provisions were included in the DHS Headquarters Reform and Improvement Act of 2015,[12] the DHS Accountability Act of 2016,[13] and the DHS Reform and Improvement Act.[14] Additional information on this high-risk area is provided on page 354 of this report.

- **Strategic Human Capital Management.** This area progressed from partially met to met on leadership commitment. The Office of Personnel Management (OPM), agencies, and Congress have taken actions to improve efforts to address mission critical skills gaps. Specifically, OPM has demonstrated leadership commitment by publishing revisions to its human capital regulations in December 2016 that require agencies to, among other things, implement human capital policies and programs that address and monitor government-wide and agency-specific skills gaps. This initiative has increased the likelihood that skills gaps with the greatest operational effect will be addressed in future efforts.

  At the same time, Congress has provided agencies with authorities and flexibilities to manage the federal workforce and make the federal government a more accountable employer. For example, Congress included a provision in the National Defense Authorization Act for Fiscal Year 2016 to extend the probationary period for newly-hired

[11]Pub. L. No. 114-328, § 1903(b) *codified at* 6 U.S.C. § 341(a)(11).

[12]H.R.3572, 114th Cong. (as passed by House, Oct. 20, 2015).

[13]S. 2976, 114th Cong. § 101(b) (as reported by S. Comm. on Homeland Sec. and Gov'tal Affairs, June 28, 2016).

[14]H.R. 6381, 114th Cong. (2016).

civilian DOD employees from 1 to 2 years.[15] This action is consistent with our 2015 reporting that better use of probationary periods gives agencies the ability to ensure an employee's skills are a good fit for all critical areas of a particular job. Additional information on this high-risk area is provided on page 61 of this report.

- **Transforming the Environmental Protection Agency's Process for Assessing and Controlling Toxic Chemicals.** Overall, this high-risk area progressed from not met to partially met on two criteria—capacity and demonstrated progress—and continued to partially meet the criterion for monitoring due to progress in one program area. The Environmental Protection Agency's (EPA) ability to effectively implement its mission of protecting public health and the environment is critically dependent on assessing the risks posed by chemicals in a credible and timely manner. EPA assesses these risks under a variety of actions, including the Integrated Risk Information System (IRIS) program and EPA's Toxic Substances Control Act (TSCA) program. The IRIS program has made some progress on the capacity, monitoring, and demonstrated progress criteria. In terms of IRIS capacity, EPA has partially met this criterion by finalizing a Multi-Year Agenda to better assess how many people and resources should be dedicated to the IRIS program. In terms of IRIS monitoring, EPA has met this criterion in part by using a Chemical Assessment Advisory Committee to review IRIS assessments, among other actions. In terms of IRIS demonstrated progress, EPA has partially met this criterion as of January 2017 by issuing five assessments since fiscal year 2015.

  The Frank R. Lautenberg Chemical Safety for the 21st Century Act amended TSCA and was enacted on June 22, 2016.[16] Passing TSCA reform may facilitate EPA's effort to improve its processes for assessing and controlling toxic chemicals in the years ahead. The new law provides EPA with greater authority and the ability to take actions that could help EPA implement its mission of protecting human health and the environment. EPA officials stated that the agency is better positioned to take action to require chemical companies to report chemical toxicity and exposure data. Officials also stated that the new law gives the agency additional authorities, including the authority to require companies to develop new

[15]Pub. L. No. 114-92, div. A, title XI, § 1105, 129 Stat. 726, 1023-1024, *codified at* 10 U.S.C. § 1599e.

[16]Pub. L. No. 114-182, 130 Stat. 448.

information relating to a chemical as necessary for prioritization and risk evaluation.

Using both new and previously existing TSCA authorities should enhance the agency's ability to gather new information as necessary to evaluate hazard and exposure risks. Continued leadership commitment from EPA officials and Congress will be needed to fully implement reforms. Additional work will also be needed to issue a workload analysis to demonstrate capacity, complete a corrective action plan, and demonstrate progress implementing the new legislation. Additional information on this high-risk area is provided on page 417 of this report.

- **Managing Federal Real Property.** The federal government continued to meet the criteria for leadership commitment, now partially meets the criterion for demonstrated progress, and made some progress in each of the other high-risk criteria. The Office of Management and Budget (OMB) issued the National Strategy for the Efficient Use of Real Property (National Strategy) on March 25, 2015, which directs Chief Financial Officer (CFO) Act agencies to take actions to reduce the size of the federal real property portfolio, as we recommended in 2012. In addition, in December 2016, two real property reform bills were enacted that could address the long-standing problem of federal excess and underutilized property. The Federal Assets Sale and Transfer Act of 2016 may help address stakeholder influence by establishing an independent board to identify and recommend five high-value civilian federal buildings for disposal within 180 days after the board members are appointed, as well as develop recommendations to dispose and redevelop federal civilian real properties.[17]

  Additionally, the Federal Property Management Reform Act of 2016 codified the Federal Real Property Council (FRPC) for the purpose of ensuring efficient and effective real property management while reducing costs to the federal government.[18] FRPC is required to establish a real property management plan template, which must include performance measures, and strategies and government-wide goals to reduce surplus property or to achieve better utilization of underutilized property. In addition, federal agencies are required to annually provide FRPC a report on all excess and underutilized property, and identify leased space that is not fully used or occupied.

[17]Pub. L. No. 114-287, 130 Stat. 1463. The act excludes properties on military instillations among other types of properties.

[18]Pub. L. No. 114-318, 130 Stat. 1608.

In addressing our 2016 recommendation to improve the reliability of real property data, GSA conducted an in-depth survey that focused on key real property data elements maintained in the Federal Real Property Profile, formed a working group of CFO Act agencies to analyze the survey results and reach consensus on reforms, and issued a memorandum to CFO Act agencies designed to improve the consistency and quality of real property data. The Federal Protective Service, which protects about 9,500 federal facilities, implemented our recommendation aimed at improving physical security by issuing a plan that identifies goals and describes resources that support its risk management approach. In addition, the Interagency Security Committee, a DHS-chaired organization, issued new guidance intended to make the most effective use of physical security resources. Additional information on this high-risk area is provided on page 77 of this report.

- **Enforcement of Tax Laws.** The Internal Revenue Service's (IRS) continued efforts to enforce tax laws and address identity theft refund fraud (IDT) have resulted in the agency meeting one criterion for removal from the High-Risk List (leadership commitment) and partially meeting the remaining four criteria (capacity, action plan, monitoring, and demonstrating progress). IDT is a persistent and evolving threat that burdens legitimate taxpayers who are victims of the crime. It cost the U.S. Treasury an estimated minimum of $2.2 billion during the 2015 tax year.

  Congress and IRS have taken steps to address this challenge. IRS has deployed new tools and increased resources dedicated to identifying and combating IDT refund fraud. In addition, the Consolidated Appropriations Act, 2016, amended the tax code to accelerate Wage and Tax Statement (W-2) filing deadlines to January 31.[19] We had previously reported that the wage information that employers report on Form W-2 was not available to IRS until after it issues most refunds. With earlier access to W-2 wage data, IRS could match such information to taxpayers' returns and identify discrepancies before issuing billions of dollars of fraudulent IDT refunds. Such matching could also provide potential benefits for other IRS enforcement programs, such as preventing improper payments via the Earned Income Tax Credit. Additional information on this high-risk area is provided on page 500 of this report.

[19]Pub. L. No. 114-113, div. Q, § 201, 129 Stat. 2242, 3076 (2015). This change went into effect for W-2s reporting payments made in 2016 and filed in 2017.

Congressional Action Aided Progress on Government-wide High-Risk Issues

In addition to being instrumental in supporting progress in individual high-risk areas, Congress also has taken actions to enact various statutes that, if implemented effectively, will help foster progress on high-risk issues government-wide. These include the:

- **Program Management Improvement Accountability Act:**[20] Enacted in December 2016, the act seeks to improve program and project management in federal agencies. Among other things, the act requires the Deputy Director of the Office of Management and Budget (OMB) to adopt and oversee implementation of government-wide standards, policies, and guidelines for program and project management in executive agencies. The act also requires the Deputy Director to conduct portfolio reviews to address programs on our High-Risk List. It further creates a Program Management Policy Council to act as an interagency forum for improving practices related to program and project management. The Council is to review programs on the High-Risk List and make recommendations to the Deputy Director or designee. We are to review the effectiveness of key efforts under the act to improve federal program management.
- **Fraud Reduction and Data Analytics Act of 2015 (FRDA):**[21] FRDA, enacted in June 2016, is intended to strengthen federal anti-fraud controls, while also addressing improper payments.[22] FRDA requires OMB to use our Fraud Risk Framework to create guidelines for federal agencies to identify and assess fraud risks, and then design and implement control activities to prevent, detect, and respond to fraud.[23] Agencies, as part of their annual financial reports beginning in fiscal year 2017, are further required to report on their fraud risks and their implementation of fraud reduction strategies, which should help

[20]Pub. L. No. 114-264, 130 Stat. 1371 (2016).

[21]Pub. L. No. 114-186, 130 Stat. 546 (2016).

[22]It is important to note that while all fraud involving a federal payment is considered an improper payment, not all improper payments are fraud. However, minimizing fraud risks in federal agency programs can help reduce improper payments and enhance program integrity.

[23]To help managers combat fraud and preserve integrity in government agencies and programs, we identified leading practices for managing fraud risks and organized them into a conceptual framework. GAO, *A Framework for Managing Fraud Risks in Federal Programs*, GAO-15-593SP (Washington, D.C.: July 28, 2015).

Congress monitor agencies' progress in addressing and reducing fraud risks. To aid federal agencies in better analyzing fraud risks, FRDA requires OMB to establish a working group tasked with developing a plan for the creation of an interagency library of data analytics and data sets to facilitate the detection of fraud and the recovery of improper payments. This working group and the library should help agencies to coordinate their fraud detection efforts and improve their ability to use data analytics to monitor databases for potential improper payments. The billions of dollars of improper payments are a central part of the Medicare Program, Medicaid Program, and Enforcement of Tax Laws (Earned Income Tax Credit) high-risk areas.

- **IT Acquisition Reform, Legislation known as the Federal Information Technology Acquisition Reform Act (FITARA):**[24] FITARA, enacted in December 2014, was intended to improve how agencies acquire IT and enable Congress to monitor agencies' progress and hold them accountable for reducing duplication and achieving cost savings. FITARA includes specific requirements related to seven areas: the federal data center consolidation initiative, enhanced transparency and improved risk management, agency Chief Information Officer authority enhancements, portfolio review, expansion of training and use of IT acquisition cadres, government-wide software purchasing, and maximizing the benefit of the federal strategic sourcing initiative. Effective implementation of FITARA is central to making progress in the Improving the Management of IT Acquisitions and Operations government-wide area we added to the High-Risk List in 2015.

High-Risk Areas Highlighted for Significant Attention

In the 2 years since the last high-risk update, two areas—Mitigating Gaps in Weather Satellite Data and Management of Federal Oil and Gas Resources—have expanded in scope because of emerging challenges related to these overall high-risk areas. In addition, while progress is needed across all high-risk areas, particular areas need significant attention.

[24]FITARA was enacted into law a part of the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015, Pub. L. No. 113-291 (2014), div. A, title VIII, subtitle D, §§ 831-837, 128 Stat. 3292, 3438-3450.

Expanding High-Risk Area: Mitigating Gaps in DOD Weather Satellite Data

DOD's Polar-Orbiting Weather Satellites

While NOAA has made significant progress, as described earlier, in its geostationary weather satellite program, DOD has made limited progress in meeting its requirements for the polar satellite program. In 2010, when the Executive Office of the President decided to disband a tri-agency polar weather satellite program, DOD was given responsibility for providing polar-orbiting weather satellite capabilities in the early morning orbit. This information is used to provide updated information for weather observations and models. However, the department was slow to develop plans to replace the existing satellites that provide this coverage. Because DOD delayed establishing plans for its next generation of weather satellites, there is a risk of a satellite data gap in the early morning orbit.

The last satellite that the department launched in 2014 called Defense Meteorological Satellite Program (DMSP)-19, stopped providing recorded data used in weather models in February 2016. A prior satellite, called DMSP-17, is now the primary satellite operating in the early morning orbit. However, this satellite, which was launched in 2006, is operating with limitations due to the age of its instruments. DOD had developed another satellite, called DMSP-20, but plans to launch that satellite were canceled after the department did not certify that it would launch the satellite by the end of calendar year 2016.

The department conducted a requirements review and analysis of alternatives from February 2012 through September 2014 to determine the best way forward for providing needed polar-orbiting satellite environmental capabilities in the early morning orbit. In October 2016, DOD approved plans for its next generation of weather satellites, called the Weather System Follow-on—Microwave program, which will meet the department's needs for satellite information on oceanic wind speed and direction to protect ships on the ocean's surface. The department plans to launch a demonstration satellite in 2017 and to launch its first operational satellite developed under this program in 2022. However, DOD's plans for the early morning orbit are not comprehensive.

The department did not thoroughly assess options for providing its two highest-priority capabilities, cloud descriptions and area-specific weather

imagery. These capabilities were not addressed due to an incorrect assumption about the capabilities that would be provided by international partners. The Weather System Follow-on—Microwave program does not address these two highest-priority capabilities and the department has not yet determined its long-term plans for providing these capabilities. As a result, the department will need to continue to rely on the older DMSP-17 satellite until its new satellite becomes operational in 2022, and it establishes and implements plans to address the high-priority capabilities that the new satellite will not address. Given the age of the DMSP-17 satellite and uncertainty on how much longer it will last, the department could face a gap in critical satellite data.

In August 2016, DOD reported to Congress its near-term plans to address potential satellite data gaps. These plans include a greater reliance on international partner capabilities, exploring options to move a geostationary satellite over an affected region, and plans to explore options for acquiring and fielding new equipment, such as satellites and satellite components to provide the capabilities. In addition, the department anticipates that the demonstration satellite to be developed as a precursor to the Weather System Follow-on—Microwave program could help mitigate a potential gap by providing some useable data. However, these proposed solutions may not be available in time or be comprehensive enough to avoid near-term coverage gaps. Such a gap could negatively affect military operations that depend on weather data, such as long-range strike capabilities and aerial refueling.

DOD needs to demonstrate progress on its new Weather Satellite Follow-on—Microwave program, and to establish and implement plans to address the high-priority capabilities that are not included in the program. Additional information on Mitigating Gaps in Weather Satellite Data is provided on page 430 of this report.

Expanding High-Risk Area: Management of Federal Oil and Gas Resources

Restructuring of Offshore Oil and Gas Oversight

On April 20, 2010, the Deepwater Horizon drilling rig exploded in the Gulf of Mexico, resulting in 11 deaths, serious injuries, and the largest marine oil spill in U.S. history. In response, in May 2010, the Department of the Interior (Interior) first reorganized its offshore oil and gas management activities into separate offices for revenue collection, under the Office of

Natural Resources Revenue, and energy development and regulatory oversight, under the Bureau of Ocean Energy Management, Regulation and Enforcement. Later, in October 2011, Interior further reorganized its energy development and regulatory oversight activities when it established two new bureaus to oversee offshore resources and operational compliance with environmental and safety requirements. The new Bureau of Ocean Energy Management (BOEM) is responsible for leasing and approving offshore development plans while the new Bureau of Safety and Environmental Enforcement (BSEE) is responsible for lease operations, safety, and enforcement.

In 2011, we added Interior's management of federal oil and gas resources to the High-Risk List based on three concerns: (1) Interior did not have reasonable assurance that it was collecting its share of billions of dollars of revenue from federal oil and gas resources; (2) Interior continued to experience problems hiring, training, and retaining sufficient staff to oversee and manage federal oil and gas resources; and (3) Interior was engaged in restructuring its oil and gas program, which is inherently challenging, and there were questions about whether Interior had the capacity to reorganize while carrying out its range of responsibilities, especially in a constrained resource environment.

Immediately after reorganizing, Interior developed memorandums and standard operating procedures to define roles and responsibilities, and facilitate and formalize coordination between BOEM and BSEE. Interior also revised polices intended to improve its oversight of offshore oil and gas activities, such as new requirements designed to mitigate the risk of a subsea well blowout or spill. In 2013, we determined that progress had been made, because Interior had fundamentally completed reorganizing its oversight of offshore oil and gas activities. As a result, in 2013, we removed the reorganization segment from this high-risk area.

However, in February 2016, we reported that BSEE had undertaken various reform efforts since its creation in 2011, but had not fully addressed deficiencies in its investigative, environmental compliance, and enforcement capabilities identified by investigations after the Deepwater Horizon incident.

BSEE's ongoing restructuring has made limited progress enhancing the bureau's investigative capabilities. BSEE continues to use pre–Deepwater Horizon incident policies and procedures. Specifically, BSEE has not completed a policy outlining investigative responsibilities or updated procedures for investigating incidents—among the goals of

BSEE's restructuring, according to restructuring planning documents, and consistent with federal standards for internal control. The use of outdated investigative policies and procedures is a long-standing deficiency. Post–Deepwater Horizon incident investigations found that Interior's policies and procedures did not require it to plan investigations, gather and document evidence, and ensure quality control, and determined that continuing to use them posed a risk to the effectiveness of bureau investigations. Without completing and updating its investigative policies and procedures, BSEE continues to face this risk.

BSEE's ongoing restructuring of its environmental compliance program reverses actions taken to address post–Deepwater Horizon incident concerns, and risks weakening the bureau's environmental compliance oversight capabilities. In 2011, in response to two post–Deepwater Horizon incident investigations that found that BSEE's predecessor's focus on oil and gas development might have been at the expense of protecting the environment, BSEE created an environmental oversight division with region-based staff reporting directly to the headquarters-based division chief instead of regional management. This reporting structure was to help ensure that environmental issues received appropriate weight and consideration within the bureau.

Under the restructuring, since February 2015, field-based environmental compliance staff again report to their regional directors. BSEE's rationale for this action is unclear, as it was not documented or analyzed as part of the bureau's restructuring planning. Under federal standards for internal control, management is to assess the risks posed by external and internal sources and decide what actions to take to mitigate them. Without assessing the risk of reversing its reporting structure, Interior cannot be sure that BSEE will have reasonable assurance that environmental issues are receiving the appropriate weight and consideration, as called for by post–Deepwater Horizon incident investigations.

When we reviewed BSEE's environmental compliance program, we found that the interagency agreements between Interior and EPA designed to coordinate water quality monitoring under the National Pollutant Discharge Elimination System were decades old. According to BSEE annual environmental compliance activity reports, the agreements may not reflect the agency's current resources and needs. For example, a 1989 agreement stipulates that Interior shall inspect no more than 50 facilities on behalf of EPA per year, and shall not conduct water sampling on behalf of EPA. Almost 30 years later, after numerous changes in

drilling practices and technologies, it is unclear whether inspecting no more than 50 facilities per year is sufficient to monitor water quality.

Nevertheless, senior BSEE officials told us that the bureau has no plans to update its agreements with EPA, and some officials said that a previous headquarters-led effort to update the agreements was not completed because it did not sufficiently describe the bureau's offshore oil and gas responsibilities. According to Standards for Internal Control in the Federal Government, as programs change and agencies strive to improve operational processes and adopt new technologies, management officials must continually assess and evaluate internal controls to ensure that control activities are effective and updated when necessary.

BSEE's ongoing restructuring has made limited progress in enhancing its enforcement capabilities. In particular, BSEE has not developed procedures with criteria to guide how it uses enforcement tools—such as warnings and fines—which are among the goals of BSEE's restructuring, according to planning documents, and consistent with federal standards for internal control. BSEE restructuring plans state that the current lack of criteria causes BSEE to act inconsistently, which makes oil and gas industry operators uncertain about BSEE's oversight approach and expectations. The absence of enforcement climate criteria is a long-standing deficiency. For example, post–Deepwater Horizon incident investigations recommended BSEE assess its enforcement tools and how to employ them to deter safety and environmental violations. Without developing procedures with defined criteria for taking enforcement actions, BSEE continues to face risks to the effectiveness of its enforcement capabilities.

To enhance Interior's oversight of oil and gas development, we recommended in February 2016 that the Secretary of the Interior direct the Director of BSEE to take the following nine actions as it continues to restructure. [25]

- To address risks to the effectiveness of BSEE's investigations, environmental compliance, and enforcement capabilities, we recommended that BSEE complete policies outlining the responsibilities of investigations, environmental compliance, and

[25]GAO, *Oil and Gas Management: Interior's Bureau of Safety and Environmental Enforcement Restructuring Has Not Addressed Long-Standing Oversight Deficiencies*, GAO-16-245 (Washington, D.C.: Feb. 10, 2016).

enforcement programs, and update and develop procedures to guide them.

- To enhance its investigative capabilities, we recommended that BSEE:
  - establish a capability to review investigation policy and collect and analyze incidents to identify trends in safety and environmental hazards;
  - develop a plan with milestones for implementing the case management system for investigations;
  - clearly communicate the purpose of BSEE's investigations program to industry operators; and
  - clarify policies and procedures for assigning panel investigation membership and referring cases of suspected criminal wrongdoing to the Inspector General.
- To enhance its environmental compliance capabilities, we recommend that BSEE:
  - conduct and document a risk analysis of the regional-based reporting structure of its Environmental Compliance Division, including actions to mitigate any identified risks;
  - coordinate with the Administrator of the Environmental Protection Agency to consider the relevance of existing interagency agreements for monitoring operator compliance with National Pollutant Discharge Elimination System permits on the Outer Continental Shelf and, if necessary, update agreements to reflect current oversight needs; and
  - develop a plan to address documented environmental oversight staffing needs.
- To enhance its enforcement capabilities, we recommended that BSEE develop a mechanism to ensure that it reviews the maximum daily civil penalty and adjusts it to reflect changes in the Consumer Price Index within the time frames established by statute.

In its written comments, Interior agreed that additional reforms—such as documented policies and procedures—are needed to address offshore oil and gas oversight deficiencies, but Interior neither agreed nor disagreed with our specific recommendations. Additional information on Management of Federal Oil and Gas Resources is provided on page 136 of this report.

Additional High-Risk Areas Needing Significant Attention

- **Managing Risks and Improving VA Health Care.** Since we added Department of Veterans Affairs (VA) health care to our High-Risk List in 2015, VA has acknowledged the significant scope of the work that lies ahead in each of the five areas of concern we identified: (1) ambiguous policies and inconsistent processes; (2) inadequate oversight and accountability; (3) information technology (IT) challenges; (4) inadequate training for VA staff; and (5) unclear resource needs and allocation priorities. It is imperative that VA maintain strong leadership support, and as the new administration sets its priorities, VA will need to integrate those priorities with its high-risk related actions.

  VA developed an action plan for addressing its high-risk designation, but the plan describes many planned outcomes with overly ambitious deadlines for completion. We are concerned about the lack of root cause analyses for most areas of concern, and the lack of clear metrics and needed resources for achieving stated outcomes. In addition, with the increased use of community care programs, it is imperative that VA's action plan discuss the role of community care in decisions related to policies, oversight, IT, training, and resource needs.

  Finally, to help address its high-risk designation, VA should continue to implement our recommendations, as well as recommendations from others. While VA's leadership has increased its focus on implementing our recommendations in the last 2 years, additional work is needed. We made 66 VA health care-related recommendations in products issued since the VA health care high-risk designation in February 2015, for a total of 244 recommendations from January 1, 2010, through December 31, 2016. VA has implemented 122 (about 50 percent) of the 244 recommendations, but over 100 recommendations remain open as of December 31, 2016 (with about 25 percent being open for 3 or more years). It is critical that VA implement our recommendations in a timely manner.

  Additional information on Managing Risks and Improving VA Health Care is provided on page 627 of this report.

- **DOD Financial Management.** The effects of DOD's financial management problems extend beyond financial reporting and negatively affect DOD's ability to manage the department and make sound decisions on mission and operations. In addition, DOD remains one of the few federal entities that cannot demonstrate its ability to accurately account for and reliably report its spending or assets.

DOD's financial management problems continue as one of three major impediments preventing us from expressing an opinion on the consolidated financial statements of the federal government.

Sustained leadership commitment will be critical to DOD's success in achieving financial accountability, and in providing reliable information for day-to-day management decision making as well as financial audit readiness. DOD needs to assure the sustained involvement of leadership at all levels of the department in addressing financial management reform and business transformation. In addition, further action is needed in the areas of capacity and action planning. Specifically, DOD needs to

- continue building a workforce with the level of training and experience needed to support and sustain sound financial management;
- continue to develop and deploy enterprise resource planning systems as a critical component of DOD's financial improvement and audit readiness strategy, as well as strengthen automated controls or design manual workarounds for the remaining legacy systems to satisfy audit requirements and improve data used for day-to-day decision making; and
- effectively implement its Financial Improvement and Audit Readiness Plan and related guidance to focus on strengthening processes, controls, and systems to improve the accuracy, reliability, and reporting for its priority areas, including budgetary information and mission-critical assets.

Further, DOD needs to monitor and assess the progress the department is making to remediate its internal control deficiencies. DOD should (1) require the military services to improve their policies and procedures for monitoring their corrective action plans for financial management-related findings and recommendations, and (2) improve its process for monitoring the military services' audit remediation efforts by preparing a consolidated management summary that provides a comprehensive picture of the status of corrective actions throughout the department. DOD is continuing to work toward undergoing a full financial statement audit by fiscal year 2018; however, it expects to receive disclaimers of opinion on its financial statements for a number of years.

A lack of comprehensive information on the corrective action plans limits the ability of DOD and Congress to evaluate DOD's progress toward achieving audit readiness, especially given the short amount of time remaining before DOD is required to undergo an audit of the

department-wide financial statements for fiscal year 2018. Being able to demonstrate progress in remediating its financial management deficiencies will be useful as the department works toward implementing lasting financial management reform to ensure that it can generate reliable, useful, and timely information for financial reporting as well as for decision making and effective operations. Moreover, stronger financial management would show DOD's accountability for funds and would help it operate more efficiently.

Additional information on DOD Financial Management is provided on page 280 of this report.

- **Modernizing the U.S. Financial Regulatory System and the Federal Role in Housing Finance.** Resolving the role of the federal government in housing finance will require leadership commitment and action by Congress and the administration. The federal government has directly or indirectly supported more than two-thirds of the value of new mortgage originations in the single-family housing market since the beginning of the 2007-2009 financial crisis.[26] Mortgages with federal support include those backed by Fannie Mae and Freddie Mac, two large government-sponsored enterprises (the enterprises). Out of concern that their deteriorating financial condition threatened the stability of financial markets, the Federal Housing Finance Agency (FHFA) placed the enterprises into federal conservatorship in 2008, creating an explicit fiscal exposure for the federal government. As of September 2016, the Department of the Treasury (Treasury) had provided about $187.5 billion in funds as capital support to the enterprises, with an additional $258.1 billion available to the enterprises should they need further assistance. In accordance with the terms of agreements with Treasury, the enterprises had paid dividends to Treasury totaling about $250.5 billion through September 2016.

  More than 8 years after entering conservatorship, the enterprises' futures remain uncertain and billions of federal dollars remain at risk. The enterprises have a reduced capacity to absorb future losses due to a capital reserve amount that falls to $0 by 2018. Without a capital reserve, any quarterly losses—including those due to market fluctuations and not necessarily to economic conditions—would require the enterprises to draw additional funds from Treasury. Additionally, prolonged conservatorships and a change in leadership at FHFA could shift priorities for the conservatorships, which in turn could send mixed messages and create uncertainties for market

[26]This figure is based on data from Inside Mortgage Finance.

participants and hinder the development of the broader secondary mortgage market. For this reason, we said in November 2016 that Congress should consider legislation establishing objectives for the future federal role in housing finance, including the structure of the enterprises, and a transition plan to a reformed housing finance system that enables the enterprises to exit conservatorship.[27]

The federal government also supports mortgages through insurance or guarantee programs, the largest of which is administered by the Department of Housing and Urban Development's Federal Housing Administration (FHA). During the financial crisis, FHA served its traditional role of helping to stabilize the housing market, but also experienced financial difficulties from which it only recently recovered. Maintaining FHA's long-term financial health and defining its future role also will be critical to any effort to overhaul the housing finance system.

We previously recommended that Congress or FHA specify the economic conditions that FHA's Mutual Mortgage Insurance Fund would be expected to withstand without requiring supplemental funds. As evidenced by the $1.68 billion FHA received in 2013, the current 2 percent capital requirement for FHA's fund may not always be adequate to avoid the need for supplemental funds under severe stress scenarios. Implementing our recommendation would be an important step not only in addressing FHA's long-term financial viability, but also in clarifying FHA's role.

Additional information on Modernizing the U.S. Financial Regulatory System and the Federal Role in Housing Finance is provided on page 107 of this report.

- **Pension Benefit Guaranty Corporation Insurance Programs.** The Pension Benefit Guaranty Corporation (PBGC) is responsible for insuring the defined benefit pension plans of nearly 40 million American workers and retirees who participate in nearly 24,000 private sector plans. PBGC faces an uncertain financial future due, in part, to a long-term decline in the number of traditional defined benefit plans and the collective financial risk of the many underfunded pension plans that PBGC insures. PBGC's financial portfolio is one of the largest of all federal government corporations and, at the end of fiscal year 2016, PBGC's net accumulated financial deficit was over $79 billion—having more than doubled since fiscal year 2013. PBGC

[27]GAO, *Federal Housing Finance Agency: Objectives Needed for the Future of Fannie Mae and Freddie Mac After Conservatorships*, GAO-17-92 (Washington, D.C.: Nov. 17, 2016).

has estimated that, without additional funding, its multiemployer insurance program will likely be exhausted by 2025 as a result of current and projected pension plan insolvencies. The agency's single-employer insurance program is also at risk due to the continuing decline of traditional defined benefit pension plans, increased financial risk and reduced premium payments.

While Congress and PBGC have taken significant and positive steps to strengthen the agency over recent years, challenges related to PBGC's funding and governance structure remain. Addressing the significant financial risk and governance challenges that PBGC faces requires additional congressional action. To improve the long-term financial stability of PBGC's insurance programs, Congress should consider: (1) authorizing a redesign of PBGC's single employer program premium structure to better align rates with sponsor risk; (2) adopting additional changes to PBGC's governance structure—in particular, expanding the composition of its board of directors; (3) strengthening funding requirements for plan sponsors as appropriate given national economic conditions; (4) working with PBGC to develop a strategy for funding PBGC claims over the long term, as the defined benefit pension system continues to decline; and (5) enacting additional structural reforms to reinforce and stabilize the multiemployer system that balance the needs and potential sacrifices of contributing employers, participants and the federal government. Absent additional steps to improve PBGC's finances, the long-term financial stability of the agency remains uncertain and the retirement benefits of millions of American workers and retirees could be at risk of dramatic reductions.

Additional information on Pension Benefit Guaranty Corporation Insurance Programs is provided on page 609 of this report.

- **Ensuring the Security of Federal Information Systems and Cyber Critical Infrastructure and Protecting the Privacy of Personally Identifiable Information.** Federal agencies and our nation's critical infrastructures—such as energy, transportation systems, communications, and financial services—are dependent on computerized (cyber) information systems and electronic data to carry out operations and to process, maintain, and report essential

information.[28] The security of these systems and data is vital to public confidence and the nation's safety, prosperity, and well-being. However, safeguarding computer systems and data supporting the federal government and the nation's critical infrastructure is a concern. We first designated information security as a government-wide high-risk area in 1997.

This high-risk area was expanded to include the protection of critical cyber infrastructure in 2003 and protecting the privacy of personally identifiable information (PII) in 2015. Ineffectively protecting cyber assets can facilitate security incidents and cyberattacks that disrupt critical operations; lead to inappropriate access to and disclosure, modification, or destruction of sensitive information; and threaten national security, economic well-being, and public health and safety. In addition, the increasing sophistication of hackers and others with malicious intent, and the extent to which both federal agencies and private companies collect sensitive information about individuals, have increased the risk of PII being exposed and compromised.

Over the past several years, we have made about 2,500 recommendations to agencies aimed at improving the security of federal systems and information. These recommendations would help agencies strengthen technical security controls over their computer networks and systems, fully implement aspects of their information security programs, and protect the privacy of PII held on their systems. As of October 2016, about 1,000 of our information security–related recommendations had not been implemented. In addition, the federal government needs, among other things, to improve its abilities to detect, respond to, and mitigate cyber incidents; expand efforts to protect cyber critical infrastructure; and oversee the protection of PII, among other things.

Additional information on Ensuring the Security of Federal Information Systems and Cyber Critical Infrastructure and Protecting the Privacy of Personally Identifiable Information is provided on page 338 of this report.

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

New High-Risk Areas

For 2017, we are adding three new areas to the High-Risk List.[29]

Improving Federal Management of Programs That Serve Tribes and Their Members

We, along with inspectors general, special commissions, and others, have reported that federal agencies have ineffectively administered Indian education and health care programs, and inefficiently fulfilled their responsibilities for managing the development of Indian energy resources. In particular, we have found numerous challenges facing Interior's Bureau of Indian Education (BIE) and Bureau of Indian Affairs (BIA)[30] and the Department of Health and Human Services' (HHS) Indian Health Service (IHS) in administering education and health care services, which put the health and safety of American Indians served by these programs at risk. These challenges included poor conditions at BIE school facilities that endangered students, and inadequate oversight of health care that hindered IHS's ability to ensure quality care to Indian communities. In addition, we have reported that BIA mismanages Indian energy resources held in trust and thereby limits opportunities for tribes and their members to use those resources to create economic benefits and improve the well-being of their communities.

Congress recently noted, "through treaties, statutes, and historical relations with Indian tribes, the United States has undertaken a unique trust responsibility to protect and support Indian tribes and Indians."[31] In light of this unique trust responsibility and concerns about the federal government ineffectively administering Indian education and health care programs and mismanaging Indian energy resources, we are adding these programs as a high-risk issue because they uniquely affect tribal nations and their members.

[29]To determine which federal government programs and functions should be designated high risk, we use our guidance document, Determining Performance and Accountability Challenges and High Risks, GAO-01-159SP.

[30]Both of these bureaus are under the Office of the Assistant Secretary for Indian Affairs (Indian Affairs).

[31]Indian Trust Asset Reform Act, Pub. L. No. 114-178, § 101(3) (2016).

Federal agencies have performed poorly in the following broad areas: (1) oversight of federal activities; (2) collaboration and communication; (3) federal workforce planning; (4) equipment, technology, and infrastructure; and (5) federal agencies' data. While federal agencies have taken some actions to address the 41 recommendations we made related to Indian programs, there are currently 39 that have yet to be fully resolved.

We plan to continue monitoring federal efforts in these areas. To this end, we have ongoing work focusing on accountability for safe schools and school construction, and tribal control of energy delivery, management, and resource development.

What Needs to Be Done

Education: We have identified weaknesses in how Indian Affairs oversees school safety and construction and in how it monitors the way schools use Interior funds. We have also found limited workforce planning in several key areas related to BIE schools. Moreover, aging BIE school facilities and equipment contribute to degraded and unsafe conditions for students and staff. Finally, a lack of internal controls and other weaknesses hinder Indian Affairs' ability to collect complete and accurate information on the physical conditions of BIE schools.

In the past 3 years, we issued three reports on challenges with Indian Affairs' management of BIE schools in which we made 13 recommendations. Eleven recommendations below remain open.

- To help ensure that BIE schools provide safe and healthy facilities for students and staff, we made four recommendations which remain open, including that Indian Affairs ensure the inspection information it collects on BIE schools is complete and accurate; develop a plan to build schools' capacity to promptly address safety and health deficiencies; and consistently monitor whether BIE schools have established required safety committees.
- To help ensure that BIE conducts more effective oversight of school spending, we made four recommendations which remain open, including that Indian Affairs develop a workforce plan to ensure that BIE has the staff to effectively oversee school spending; put in place written procedures and a risk-based approach to guide BIE in overseeing school spending; and improve information sharing to support the oversight of BIE school spending.

- To help ensure that Indian Affairs improves how it manages Indian education, we made five recommendations. Three recommendations remain open, including that Indian Affairs develop a strategic plan for BIE that includes goals and performance measures for how its offices are fulfilling their responsibilities to provide BIE with support; revise Indian Affairs' strategic workforce plan to ensure that BIA regional offices have an appropriate number of staff with the right skills to support BIE schools in their regions; and develop and implement decision-making procedures for BIE to improve accountability for BIE schools.

Health Care: IHS provides inadequate oversight of health care, both of its federally operated facilities and through the Purchase Referred Care program (PRC). Other issues include ineffective collaboration—specifically, IHS does not require its area offices to inform IHS headquarters if they distribute funds to local PRC programs using different criteria than the PRC allocation formula suggested by headquarters. As a result, IHS may be unaware of additional funding variation across areas. We have also reported that IHS officials told us that an insufficient workforce was the biggest impediment to ensuring patients could access timely primary care.

In the past 6 years, we have made 12 recommendations related to Indian health care that remain open. Although IHS has taken several actions in response to our recommendations, such as improving the data collected for the PRC program and adopting Medicare-like rates for nonhospital services, much more needs to be done.

- To help ensure that Indian people receive quality health care, the Secretary of HHS should direct the Director of IHS to take the following two actions: (1) as part of implementing IHS's quality framework, ensure that agency-wide standards for the quality of care provided in its federally operated facilities are developed, and systematically monitor facility performance in meeting these standards over time; and (2) develop contingency and succession plans for replacing key personnel, including area directors.
- To help ensure that timely primary care is available and accessible to Indians, IHS should: (1) develop and communicate specific agency-wide standards for wait times in federally-operated facilities, and (2) monitor patient wait times in federally-operated facilities and ensure that corrective actions are taken when standards are not met.
- To help ensure that IHS has meaningful information on the timeliness with which it issues purchase orders authorizing payment under the

PRC program, and to improve the timeliness of payments to providers, we recommended that IHS: (1) modify IHS's claims payment system to separately track IHS referrals and self-referrals, revise Government Performance and Results Act measures for the PRC program so that it distinguishes between these two types of referrals, and establish separate time frame targets for these referral types; and (2) better align PRC staffing levels and workloads by revising its current practices, where available, used to pay for PRC program staff. In addition, as HHS and IHS monitor the effect that new coverage options available to IHS beneficiaries through PPACA have on PRC funds, we recommend that IHS concurrently develop potential options to streamline requirements for program eligibility.

- To help ensure successful outreach efforts regarding PPACA coverage expansions, we recommended that IHS realign current resources and personnel to increase capacity to deal with enrollment in Medicaid and the exchanges, and prepare for increased billing to these payers.
- If payments for physician and other nonhospital services are capped, we recommended that IHS monitor patient access to these services.
- To help ensure a more equitable allocation of funds per capita across areas, we recommended that Congress consider requiring IHS to develop and use a new method for allocating PRC funds.
- To develop more accurate data for estimating the funds needed for the PRC program and improve IHS oversight, we recommended that IHS develop a written policy documenting how it evaluates the need for the PRC program, and disseminate it to area offices so they understand how unfunded services data are used to estimate overall program needs. We also recommended that IHS develop written guidance for PRC programs outlining a process to use when funds are depleted but recipients continue to need services.

Energy: We have reported on issues with BIA oversight of federal activities, such as the length of time it takes to review energy-related documents. We also reported on challenges with collaboration—in particular, while working to form an Indian Energy Service Center, BIA did not coordinate with key regulatory agencies, including the Department of the Interior's Fish and Wildlife Service, the U.S. Army Corps of Engineers, and the Environmental Protection Agency. In addition, we found workforce planning issues at BIA contribute to management shortcomings that have hindered Indian energy development. Lastly, we found issues with outdated and deteriorating equipment, technology, and infrastructure, as well as incomplete and inaccurate data.

In the past 2 years, we issued three reports on developing Indian energy resources in which we made 14 recommendations to BIA. All recommendations remain open.

- To help ensure BIA can verify ownership in a timely manner and identify resources available for development, we made two recommendations, including that Interior take steps to improve its geographic information system mapping capabilities.
- To help ensure BIA's review process is efficient and transparent, we made two recommendations, including that Interior take steps to develop a documented process to track review and response times for energy-related documents that must be approved before tribes can develop energy resources.
- To help improve clarity of tribal energy resource agreement regulations, we recommended BIA provide additional guidance to tribes on provisions that tribes have identified to Interior as unclear.
- To help ensure that BIA streamlines the review and approval process for revenue-sharing agreements, we made three recommendations, including that Interior establish time frames for the review and approval of Indian revenue-sharing agreements for oil and gas, and establish a system for tracking and monitoring the review and approval process to determine whether time frames are met.
- To help improve efficiencies in the federal regulatory process, we made four recommendations, including that BIA take steps to coordinate with other regulatory agencies so the Service Center can serve as a single point of contact or lead agency to navigate the regulatory process.
- To help ensure that BIA has a workforce with the right skills, appropriately aligned to meet the agency's goals and tribal priorities, we made two recommendations, including that BIA establish a documented process for assessing BIA's workforce composition at agency offices.

Congressional Actions Needed: It is critical that Congress maintain its focus on improving the effectiveness with which federal agencies meet their responsibilities to serve tribes and their members. Since 2013, we testified at six hearings to address significant weaknesses we found in the federal management of programs that serve tribes and their members. Sustained congressional attention to these issues will highlight the challenges discussed here and could facilitate federal actions to improve Indian education and health care programs, and the development of Indian energy resources.

See pages 200-219 for additional details on what we found.

U.S. Government's Environmental Liability

The federal government's environmental liability has been growing for the past 20 years and is likely to continue to increase. For fiscal year 2016, the federal government's estimated environmental liability was $447 billion—up from $212 billion for fiscal year 1997.[32] However, this estimate does not reflect all of the future cleanup responsibilities facing federal agencies. Because of the lack of complete information and the often inconsistent approach to making cleanup decisions, federal agencies cannot always address their environmental liabilities in ways that maximize the reduction of health and safety risks to the public and the environment in a cost-effective manner.

The federal government is financially liable for cleaning up areas where federal activities have contaminated the environment. Various federal laws, agreements with states, and court decisions require the federal government to clean up environmental hazards at federal sites and facilities—such as nuclear weapons production facilities and military installations. Such sites are contaminated by many types of waste, much of which is highly hazardous.

Federal accounting standards require agencies responsible for cleaning up contamination to estimate future cleanup and waste disposal costs, and to report such costs in their annual financial statements as environmental liabilities. Per federal accounting standards, federal agencies' environmental liability estimates are to include probable and reasonably estimable costs of cleanup work. Federal agencies' environmental liability estimates do not include cost estimates for work for which reasonable estimates cannot currently be generated. Consequently, the ultimate cost of addressing the U.S. government's environmental cleanup is likely greater than $447 billion. Federal agencies' approaches to addressing their environmental liabilities and cleaning up the contamination from past activities are often influenced by numerous site-specific factors, stakeholder agreements, and legal provisions.

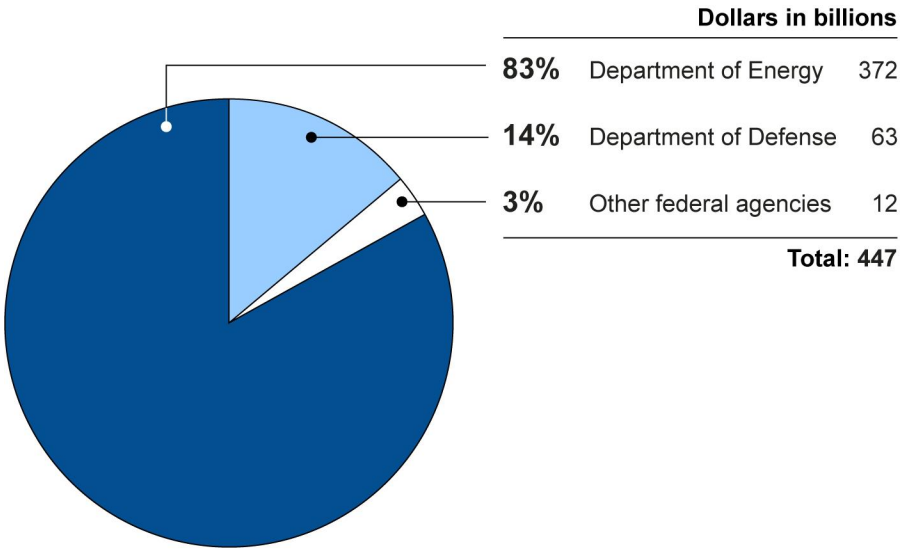
[32]We did not adjust environmental liability estimates for inflation because information about the amount of the liability applicable to each fiscal year was not available.

We have also found that some agencies do not take a holistic, risk-informed approach to environmental cleanup that aligns limited funds with the greatest risks to human health and the environment. Since 1994, we have made at least 28 recommendations related to addressing the federal government's environmental liability. These include 22 recommendations to the Departments of Energy (DOE) or Defense (DOD), 1 recommendation to OMB to consult with Congress on agencies' environmental cleanup costs, and 4 recommendations to Congress to change the laws governing cleanup activities. Of these, 13 recommendations remain unimplemented. If implemented, these steps would improve the completeness and reliability of the estimated costs of future cleanup responsibilities, and lead to more risk-based management of the cleanup work.

What Needs to Be Done

Of the federal government's estimated $447 billion environmental liability, DOE is responsible for by far the largest share of the liability, and DOD is responsible for the second largest share. The rest of the federal government makes up the remaining 3 percent of the liability with agencies such as the National Aeronautics and Space Administration (NASA) and the Departments of Transportation, Veteran's Affairs, Agriculture (USDA), and Interior holding large liabilities (see figure 2).

Figure 2: Total Reported U.S. Environmental Liability, Fiscal Year 2016

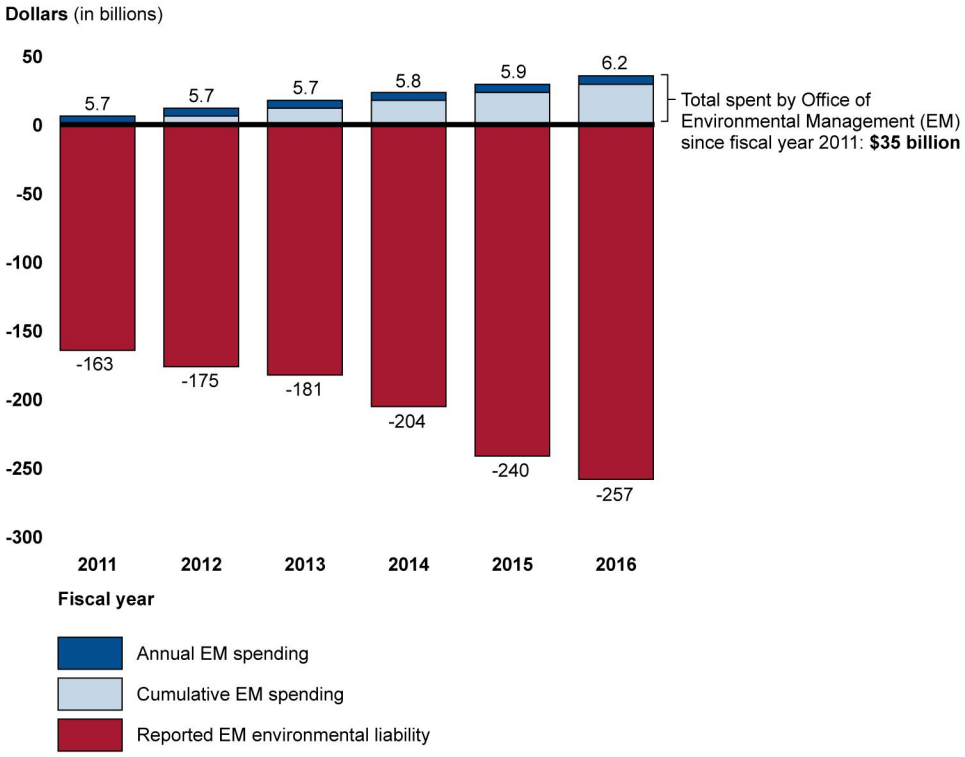


Source: GAO analysis of the Financial Report of the U.S. Government, fiscal year 2016. | GAO-17-317

Note: We did not adjust environmental liability estimates for inflation because information about the amount of the liability applicable to each fiscal year was not available.

Agencies spend billions each year on environmental cleanup efforts but the estimated environmental liability continues to rise. For example, despite billions spent on environmental cleanup, DOE's environmental liability has roughly doubled from a low of $176 billion in fiscal year 1997 to the fiscal year 2016 estimate of $372 billion. In the last 6 years alone, DOE's Office of Environmental Management (EM) has spent $35 billion, primarily to treat and dispose of nuclear and hazardous waste, and construct capital asset projects to treat the waste; however, EM's portion of the environmental liability has grown over this same time period by over $90 billion, from $163 billion to $257 billion (see figure 3).

Figure 3: DOE's Office of Environmental Management's Annual Spending and Growing Environmental Liability



Source: GAO analysis of Department of Energy budget data. | GAO-17-317

Note: EM is the organization within DOE responsible for managing environmental cleanup and is responsible for cleaning up 107 sites across the country. To date, EM has completed cleanup at 91 of these sites. EM spending includes money to treat and dispose of nuclear and hazardous waste, and to construct capital asset projects to treat the waste. We did not adjust environmental liability estimates for inflation because information about the amount of the liability applicable to each fiscal year was not available.

Progress in addressing the U.S. government's environmental liabilities depends on how effectively federal departments and agencies set priorities, under increasingly restrictive budgets, that maximize the risk reduction and cost-effectiveness of cleanup approaches. As a first step, some departments and agencies may need to improve the completeness of information about long-term cleanup responsibilities and their associated costs so that decision makers, including Congress, can consider the full scope of the federal government's cleanup obligations. As a next step, certain departments, such as DOE, may need to change how they establish cleanup priorities. For example, DOE's current practice of negotiating agreements with individual sites without considering other sites' agreements or available resources may not ensure that limited resources will be allocated to reducing the greatest environmental risks, and costs will be minimized.

We have recommended actions to federal agencies that, if implemented, would improve the completeness and reliability of the estimated costs of future cleanup responsibilities, and lead to more risk-based management of the cleanup work. These recommendations include:

Completeness of Environmental Liability Estimates

- In 1994, we recommended that Congress amend certain legislation to require agencies to report annually on progress in implementing plans for completing site inventories, estimates of the total costs to clean up their potential hazardous waste sites, and agencies' progress toward completing their site inventories and on their latest estimates of total cleanup costs. We believe these recommendations are as relevant, if not more so, today.
- In 2015, we recommended that USDA develop plans and procedures for completing its inventories of potentially contaminated sites. USDA disagreed with this recommendation. However, we continue to believe that USDA's inventory of contaminated and potentially contaminated sites—in particular, abandoned mines, primarily on Forest Service land—is insufficient for effectively managing USDA's overall cleanup program. Interior is also faced with an incomplete inventory of abandoned mines that it is working to improve.

Reliability of Environmental Liability Estimates

- In 2006, we recommended that DOD develop, document, and implement a program for financial management review, assessment, and monitoring of the processes for estimating and reporting

environmental liabilities. This recommendation has not been implemented.

Risk-Based Decision Making

- We have found in the past that DOE's cleanup strategy is not risk based and should be re-evaluated. DOE's decisions are often driven by local stakeholders and certain requirements in federal facilities agreements and consent decrees. In 1995, we recommended that DOE set national priorities for cleaning up its contaminated sites using data gathered during ongoing risk evaluations. This recommendation has not been implemented.
- In 2003, we recommended that DOE ask Congress to clarify its authority for designating certain waste with relatively low levels of radioactivity as waste incidental to reprocessing, and therefore not managed as high-level waste. In 2004, DOE received this specific authority from Congress for the Savannah River and Idaho Sites,[33] thereby allowing DOE to save billions of dollars in waste treatment costs. The law, however, excluded the Hanford Site.
- More recently, in 2015, we found that DOE is not comprehensively integrating risks posed by National Nuclear Security Administration's (NNSA) nonoperational contaminated facilities with EM's portfolio of cleanup work.[34] By not integrating nonoperational facilities from NNSA, EM is not providing Congress with complete information about EM's current and future cleanup obligations as Congress deliberates annually about appropriating funds for cleanup activities. We recommended that DOE integrate its lists of facilities prioritized for disposition with all NNSA facilities that meet EM's transfer requirements, and that EM should include this integrated list as part of the Congressional Budget Justification for DOE. DOE neither agreed nor disagreed with this recommendation.

See pages 232-247 for additional details on what we found.

[33]Pub. L. No. 108-375, § 3116 (2004).

[34]NNSA has identified 83 contaminated facilities for potential transfer to EM for disposition over a 25-year period, 56 of which are currently nonoperational. NNSA is maintaining these facilities for future transfer to EM, but the condition of nonoperational facilities continues to degrade, resulting in increasing costs to NNSA to maintain them to prevent the spread of contamination.

2020 Decennial Census

One of the most important functions of the U.S. Census Bureau (Bureau) is conducting the decennial census of the U.S. population, which is mandated by the Constitution and provides vital data for the nation. This information is used to apportion the seats of the U.S. House of Representatives; realign the boundaries of the legislative districts of each state; allocate billions of dollars in federal financial assistance; and provide social, demographic, and economic profiles of the nation's people to guide policy decisions at each level of government. A complete count of the nation's population is an enormous challenge as the Bureau seeks to control the cost of the census while it implements several new innovations and manages the processes of acquiring and developing new and modified IT systems supporting them. Over the past 3 years, we have made 30 recommendations to help the Bureau design and implement a more cost-effective census for 2020; however, only 6 of them had been fully implemented as of January 2017.

The cost of the census, in terms of cost for counting each housing unit, has been escalating over the last several decennials. The 2010 Census was the costliest U.S. Census in history at about $12.3 billion, and was about 31 percent more costly than the $9.4 billion cost of the 2000 Census (in 2020 dollars).[35] The average cost for counting a housing unit increased from about $16 in 1970 to around $92 in 2010 (in 2020 constant dollars). Meanwhile, the return of census questionnaires by mail (the primary mode of data collection) declined over this period from 78 percent in 1970 to 63 percent in 2010. Declining mail response rates—a key indicator of a cost-effective census—are significant and lead to higher costs. This is because the Bureau sends enumerators to each nonresponding household to obtain census data. As a result, nonresponse follow-up is the Bureau's largest and most costly field operation. In many ways, the Bureau has had to invest substantially more resources each decade to match the results of prior enumerations.

The Bureau plans to implement several new innovations in its design of the 2020 Census. In response to our recommendations regarding past decennial efforts and other assessments, the Bureau has fundamentally reexamined its approach for conducting the 2020 Census. Its plan for

[35]The fiscal year 2020 constant dollar factors the Bureau used are derived from the Chained Price Index from "Gross Domestic Product and Deflators Used in the Historical Tables: 1940–2020" table from the *Fiscal Year 2016 Budget of the United States Government*.

2020 includes four broad innovation areas that it believes will save it over $5 billion (2020 constant dollars) when compared to what it estimates conducting the census with traditional methods would cost. The Bureau's innovations include (1) using the Internet as a self-response option, which the Bureau has never done on a large scale before; (2) verifying most addresses using "in-office" procedures and on-screen imagery rather than street-by-street field canvassing; (3) re-engineering data collection methods such as by relying on an automated case management system; and (4) in certain instances, replacing enumerator collection of data with administrative records (information already provided to federal and state governments as they administer other programs). These innovations show promise for a more cost-effective head count. However, they also introduce new risks, in part, because they include new procedures and technology that have not been used extensively in earlier decennials, if at all.

The Bureau is also managing the acquisition and development of new and modified IT systems, which add complexity to the design of the census. To help control census costs, the Bureau plans to significantly change the methods and technology it uses to count the population, such as offering an option for households to respond to the survey via the Internet or phone, providing mobile devices for field enumerators to collect survey data from households, and automating the management of field operations. This redesign relies on acquiring and developing many new and modified IT systems, which could add complexity to the design.

These cost risks, new innovations, and acquisition and development of IT systems for the 2020 Census, along with other challenges we have identified in recent years, raise serious concerns about the Bureau's ability to conduct a cost-effective enumeration. Based on these concerns, we have concluded that the 2020 Census is a high-risk area and have added it to the High-Risk List in 2017.

What Needs to Be Done

To help the Bureau mitigate the risks associated with its fundamentally new and complex innovations for the 2020 Census, the commitment of top leadership is needed to ensure the Bureau's management, culture, and business practices align with a cost-effective enumeration. For example, the Bureau needs to continue strategic workforce planning efforts to ensure it has the skills and competencies needed to support planning and executing the census. It must also rigorously test individual census-taking activities to provide information on their feasibility and

performance, their potential for achieving desired results, and the extent to which they are able to function together under full operational conditions.[36]

We have recommended that the Bureau also ensure that its scheduling adheres to leading practices and be able to support a quantitative schedule risk assessment, such as by having all activities associated with the levels of resources and effort needed to complete them. The Bureau has stated that it has begun maturing project schedules to ensure that the logical relationships are in place and plans to conduct a quantitative risk assessment. We will continue to monitor the Bureau's efforts.

The Bureau must also improve its ability to manage, develop, and secure its IT systems. For example, the Bureau needs to prioritize its IT decisions and determine what information it needs in order to make those decisions. In addition, the Bureau needs to make key IT decisions for the 2020 Census in order to ensure they have enough time to have the production systems in place to support the end-to-end system test. To this end, we recommended the Bureau ensure that the methodologies for answering the Internet response rate and IT infrastructure research questions are determined and documented in time to inform key design decisions.[37] Further, given the numerous and critical dependencies between the Census Enterprise Data Collection and Processing and 2020 Census programs, their parallel implementation tracks, and the 2020 Census's immovable deadline, we recommended that the Bureau establish a comprehensive and integrated list of all interdependent risks facing the two programs, and clearly identify roles and responsibilities for managing this list.[38] The Bureau stated that it plans to take actions to address our recommendations.

It is also critical for the Bureau to have better oversight and control over its cost estimation process and we have recommended that the Bureau ensure its cost estimate is consistent with our leading practices.[39] For example, the Bureau will need to, among other practices, document all cost-influencing assumptions; describe estimating methodologies used for

[36] *2020 Census: Additional Actions Could Strengthen Data Collection Efforts,* GAO-17-191 (Washington, D.C.: Jan. 26, 2017).

[37] GAO-15-225.

[38] GAO-16-623.

[39] GAO-16-628.

each cost element; ensure that variances between planned and actual cost are documented, explained, and reviewed; and include a comprehensive sensitivity analysis, so that it can better estimate costs. We also recommended that the Bureau implement and institutionalize processes or methods for ensuring control over how risk and uncertainty are accounted for and communicated within its cost estimation process. The Bureau agreed with our recommendations, and we are currently conducting a follow-up audit of the Bureau's most recent cost estimate and will determine whether the Bureau has implemented them.

Sustained congressional oversight will be essential as well. In 2015 and 2016, congressional committees held five hearings focusing on the progress of the Bureau's preparations for the decennial. Going forward, active oversight will be needed to ensure these efforts stay on track, the Bureau has needed resources, and Bureau officials are held accountable for implementing the enumeration as planned.

We will continue monitoring the Bureau's efforts to conduct a cost-effective enumeration. To this end, we have ongoing work focusing on such topics as the Bureau's updated lifecycle cost estimate and the readiness of IT systems for the 2018 End-to-End Test.

See pages 219 – 231 for additional details on what we found.

Monitoring Previous High-Risk Areas

After we remove areas from the High-Risk List we continue to monitor them, as appropriate, to determine if the improvements we have noted are sustained and whether new issues emerge. If significant problems again arise, we will consider reapplying the high-risk designation. DOD's Personnel Security Clearance Program is one former high-risk area that we continue to closely monitor in light of government-wide reform efforts.

Personnel Security Clearances

The Office of the Director of National Intelligence (ODNI) estimates that approximately 4.2 million federal government and contractor employees

held or were eligible to hold a security clearance as of October 1, 2015.[40] Personnel security clearances provide personnel with access to classified information, the unauthorized disclosure of which could, in certain circumstances, cause exceptionally grave damage to national security. High profile security incidents, such as the disclosure of classified programs and documents by a National Security Agency contractor and the OPM data breach of 21.5 million records, demonstrate the continued need for high-quality background investigations and adjudications, strong oversight, and a secure IT process, which have been areas of long-standing challenges for the federal government.

In 2005, we designated the DOD personnel security clearance program as a high-risk area because of delays in completing background investigations and adjudications. We continued the high-risk designation in the 2007 and 2009 updates to our High-Risk List because of issues with the quality of investigation and adjudication documentation, and because delays in the timely processing of security clearances continued.[41]

In our 2011 high-risk report, we removed DOD's personnel security clearance program from the High-Risk List because DOD took actions to develop guidance to improve its adjudication process, develop and implement tools and metrics to assess quality of investigations and adjudications, and improve timeliness for processing clearances.[42] We also noted that DOD continues to be a prominent player in the overall security clearance reform effort, which includes entities within the OMB, OPM, and ODNI that comprise the Performance Accountability Council (PAC) which oversees security clearance reform. The executive branch has also taken steps to monitor its security clearance reform efforts. The GPRA Modernization Act of 2010 requires OMB to report through a website—performance.gov—on long-term cross-agency priority goals,

[40]The Director of National Intelligence (DNI) in accordance with Executive Order 13467, is responsible, as the Security Executive Agent, for the development of policies and procedures governing the conduct of investigations and adjudications for eligibility for access to classified information and eligibility to hold a sensitive position. *See* Exec. Order No. 13,467, § 2.3(c), 73 Fed. Reg. 38,103 (June 30, 2008). (renumbered as section 2.5(e) in January 2017)(renumbered as section 2.5(e) in January 2017).

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[41]GAO, *High-Risk Series: An Update*, GAO-07-310 (Washington, D.C.: January 2007); and *High-Risk Series: An Update*, GAO-09-271 (Washington, D.C.: January 2009).

[42]GAO, *High-Risk Series: An Update*, GAO-11-278 (Washington, D.C.: January 2011).

which are outcome-oriented goals covering a limited number of crosscutting policy areas, as well as goals to improve management across the federal government.[43] Among the cross-agency priority goals, the executive branch identified security clearance reform as one of the key areas it is monitoring.

Since removing DOD's personnel security clearance program from the High-Risk List, the government's overall reform efforts that began after passage of the Intelligence Reform and Terrorism Prevention Act of 2004 have had mixed progress, and key reform efforts have not yet been implemented. In the aftermath of the June 2013 disclosure of classified documents by a former National Security Agency contractor and the September 2013 shooting at the Washington Navy Yard, OMB issued, in February 2014, the *Suitability and Security Processes Review Report to the President*, a 120-day review of the government's processes for granting security clearances, among other things.

The 120-day review resulted in 37 recommendations, 65 percent of which have been implemented as of October 2016, including the issuance of executive branch-wide quality assessment standards for investigations in January 2015. Additionally, the recommendations led to expanding DOD's ability to continuously evaluate the continued eligibility of cleared personnel. However, other recommendations from the 120-day review have not yet been implemented. For example, the reform effort is still trying to fully implement the revised background investigation standards issued in 2012 and improve data sharing between local, state, and federal entities.

In addition, the 120-day review further found that performance measures for investigative quality are neither standardized nor implemented consistently across the government, and that measuring and ensuring quality continues to be a challenge. The review contained three recommendations to address the development of quality metrics, but the PAC has only partially implemented those recommendations. We previously reported that the executive branch had developed some metrics to assess quality at different phases of the personnel security

[43]See also GAO, *Performance.gov: Long-Term Strategy Needed to Improve Website Usability,* GAO-16-693 (Washington, D.C.: Aug. 30, 2016).

clearance process; however, those metrics had not been fully developed and implemented.[44]

The development of metrics to assess quality throughout the security clearance process has been a long-standing concern.[45] Since the late 1990s we have emphasized the need to build and monitor quality throughout the personnel security clearance process.[46] In 2009, we again noted that clearly defined quality metrics can improve the security clearance process by enhancing oversight of the time required to process security clearances and the quality of the investigation and adjudicative decisions. We recommended that OMB provide Congress with results of metrics on comprehensive timeliness and the quality of investigations and adjudications.[47] According to ODNI, in October 2016, ODNI began implementation of a Quality Assessment and Reporting Tool to document customer issues with background investigations. The tool will be used to report on the quality of 5 percent of each executive branch agency's background investigations.

ODNI officials stated that they plan to develop metrics in the future as data are gathered from the tool, but did not identify a completion date for these metrics. Separately, the NDAA for Fiscal Year 2017, among other things, requires DOD to institute a program to collect and maintain data and metrics on the background investigation process, in the context of developing a system for performance of background investigations.[48] The PAC's effort to fully address the 120-day review and our recommendations on establishing metrics on the quality of investigations as well as DOD's efforts to address the broader requirements in the NDAA for Fiscal Year 2017 remain open and will need to be a continued

[44]GAO, *Personnel Security Clearances: Full Development and Implementation of Metrics Needed to Measure Quality of Process,* GAO-14-157T (Washington, D.C.: Oct. 31, 2013).

[45]GAO, *Personnel Security Clearances Funding Estimates and Government-wide Metrics Are Needed to Implement Long-Standing Reform Efforts,* GAO-15-179SU (Washington, D.C.: Apr. 23, 2015). GAO, *Personnel Security Clearances: Additional Guidance and Oversight Needed at DHS and DOD to Ensure Consistent Application of Revocation Process,* GAO-14-640 (Washington, D.C.: Sept. 8, 2014). GAO, *DOD Personnel Clearances: Comprehensive Timeliness Reporting, Complete Clearance Documentation, and Quality Measures Are Needed to Further Improve the Clearance Process*, GAO-09-400 (Washington, D.C.: May 19, 2009).

[46]GAO, *DOD Personnel: Inadequate Personnel Security Investigations Pose National Security Risks*, GAO/NSIAD-00-12 (Washington, D.C.: Oct. 27, 1999).

[47]GAO-09-400.

[48]See Pub. L. No. 114-328, § 951(b)(1)(G) (2016).

focus of the department moving forward in its effort to improve its management of the security clearance process.

Further, in response to the 2015 OPM data breach, the PAC completed a 90-day review which led to an executive order establishing the National Background Investigations Bureau, within OPM, to replace the Federal Investigative Services and transferred responsibility to develop, maintain and secure new IT systems for clearances to DOD.[49] Additionally, the Executive Order made DOD a full principal member of the PAC.[50] The Executive Order also directed the PAC to review authorities, roles, and responsibilities, including submitting recommendations related to revising, as appropriate, executive orders pertaining to security clearances.[51] This effort is ongoing.

In addition to addressing the quality of security clearances and other goals and recommendations outlined in the 120-day and 90-day reviews, and the government's cross-agency priority goals, the PAC has the added challenge of addressing recent changes that may result from the NDAA for Fiscal Year 2017. Specifically, section 951 of the Act requires the Secretary of Defense to develop an implementation plan for the Defense Security Service to conduct background investigations for certain DOD personnel—presently conducted by OPM—after October 1, 2017.[52] The Secretary of Defense must submit the plan to the congressional defense committees by August 1, 2017. It also requires the Secretary of Defense and Director of OPM to develop a plan by October 1, 2017, to transfer investigative personnel and contracted resources to DOD in proportion to the workload if the plan for DOD to conduct the background investigations were implemented.[53] It is unknown if these potential changes will impact recent clearance reform efforts.

[49]See Exec. Order No. 13,741, 81 Fed. Reg. 68,289 (Sept. 29, 2016) (amending Exec. Order No. 13,467).

[50]See Exec. Order No. 13,741, § 1(e), 81 Fed. Reg. at 68,289–90.

[51]See Exec. Order No. 13,741, § 2, 81 Fed. Reg. at 68,291.

[52]Specifically, the implementation plan would cover background investigations for DOD personnel whose investigations are adjudicated by the DOD Consolidated Adjudication Facility. See Pub. L. No. 114-328, § 951(a). According to the Consolidated Adjudication Facility, its mission is to determine security clearance eligibility of non-intelligence agency DOD personnel, with a customer base including all military service members, military applicants, civilian employees, and consultants affiliated with DOD.

[53]See id.

Given the history and inherent challenges of reforming the government-wide security clearance process, coupled with recent amendments to a governing Executive Order and potential changes arising from the NDAA for Fiscal Year 2017, we will continue reviewing critical functions for personnel security clearance reform and monitor the government's implementation of key reform efforts. We have ongoing work assessing progress being made on the overall security clearance reform effort and in implementing a continuous evaluation process[54], a key reform effort considered important to improving the timeliness and quality of investigations. We anticipate issuing a report on the status of the government's continuous evaluation process in the fall of 2017. Additionally, we have previously reported on the importance of securing federal IT systems[55] and anticipate issuing a report in early 2017 that examines IT security at OPM and efforts to secure these types of critical systems. Continued progress in reforming personnel security clearances is essential in helping to ensure a federal workforce entrusted to protect U.S. government information and property, promote a safe and secure work environment, and enhance the U.S. government's risk management approach.

The high-risk assessment continues to be a top priority and we will maintain our emphasis on identifying high-risk issues across government and on providing insights and sustained attention to help address them, by working collaboratively with Congress, agency leaders, and OMB. As part of this effort, with the new administration and Congress in 2017 we hope to continue to participate in regular meetings with the incoming OMB Deputy Director for Management and with top agency officials to discuss progress in addressing high-risk areas. Such efforts have been critical for the progress that has been made.

This high-risk update is intended to help inform the oversight agenda for the 115th Congress and to guide efforts of the administration and agencies to improve government performance and reduce waste and risks. We are providing this update to the President and Vice President,

[54]Continuous evaluation refers to a vetting process to review the background of an individual who has been determined to be eligible for access to classified information or to hold a sensitive position at any time during the period of eligibility. It leverages a set of automated record checks and business rules to assist in the on-going assessment of continued eligibility. Exec. Order No. 13,764, § 3(e) (Jan. 17, 2017).

[55]GAO, *Information Security: Agencies Need to Improve Controls over Selected High-Impact Systems,* GAO-16-501 (Washington, D.C.: May 18, 2016).

congressional leadership, other Members of Congress, OMB, and the heads of major departments and agencies.

Gene L. Dodaro Comptroller General of the United States

Appendix I: Background

What Is the History of the High-Risk Program?

In 1990, we began a program to report on government operations that we identified as "high risk." Since then, generally coinciding with the start of each new Congress, we have reported on the status of progress addressing high-risk areas and have updated the High-Risk List. Our most recent high-risk update was in February 2015.[1] That update identified 32 high-risk areas.

Overall, this program has served to identify and help resolve serious weaknesses in areas that involve substantial resources and provide critical services to the public. Since our program began, the federal government has taken high-risk problems seriously and has made long-needed progress toward correcting them. In a number of cases, progress has been sufficient for us to remove the high-risk designation. A summary of changes to our High-Risk List over the past 27 years is shown in table 3. This 2017 update identifies 34 high-risk areas.

Table 3: Changes to the High-Risk List, 1990-2017

	Number of areas
Original High-Risk List in 1990	14
High-risk areas added since 1990	46
High-risk areas removed since 1990	24
High-risk areas consolidated since 1990	2
High-Risk List in 2017	34

Source: GAO. | GAO-17-317

What Are the Criteria for Being Added to the High-Risk List?

To determine which federal government programs and functions should be designated high risk, we use our guidance document, Determining Performance and Accountability Challenges and High Risks.[2] In making

[1]GAO, *High-Risk Series: An Update*, GAO-15-290 (Washington, D.C.: Feb. 11, 2015).

[2]GAO, *Determining Performance and Accountability Challenges and High Risks*, GAO-01-159SP (Washington, D.C.: November 2000).

this determination, we consider whether the program or function is of national significance or is key to performance and accountability.

Further, we consider qualitative factors, such as whether the risk

- involves public health or safety, service delivery, national security, national defense, economic growth, or privacy or citizens' rights, or
- could result in significantly impaired service, program failure, injury or loss of life, or significantly reduced economy, efficiency, or effectiveness.

We also consider the exposure to loss in monetary or other quantitative terms. At a minimum, $1 billion must be at risk, in areas such as the value of major assets being impaired; revenue sources not being realized; major agency assets being lost, stolen, damaged, wasted, or underutilized; potential for, or evidence of improper payments; and presence of contingencies or potential liabilities.

Before making a high-risk designation, we also consider corrective measures planned or under way to resolve a material control weakness and the status and effectiveness of these actions.

What Are the Criteria for Removal from the High-Risk List?

Our experience has shown that the key elements needed to make progress in high-risk areas are top-level attention by the administration and agency leaders grounded in the five criteria for removal from the High-Risk List, as well as any needed congressional action.[3] The five criteria for removal that we issued in November 2000 are as follows:

- **Leadership Commitment.** Demonstrated strong commitment and top leadership support.
- **Capacity.** Agency has the capacity (i.e., people and resources) to resolve the risk(s).
- **Action Plan.** A corrective action plan exists that defines the root cause, solutions, and provides for substantially completing corrective measures, including steps necessary to implement solutions we recommended.

[3]GAO-01-159SP.

- **Monitoring.** A program has been instituted to monitor and independently validate the effectiveness and sustainability of corrective measures.
- **Demonstrated Progress.** Ability to demonstrate progress in implementing corrective measures and in resolving the high-risk area.

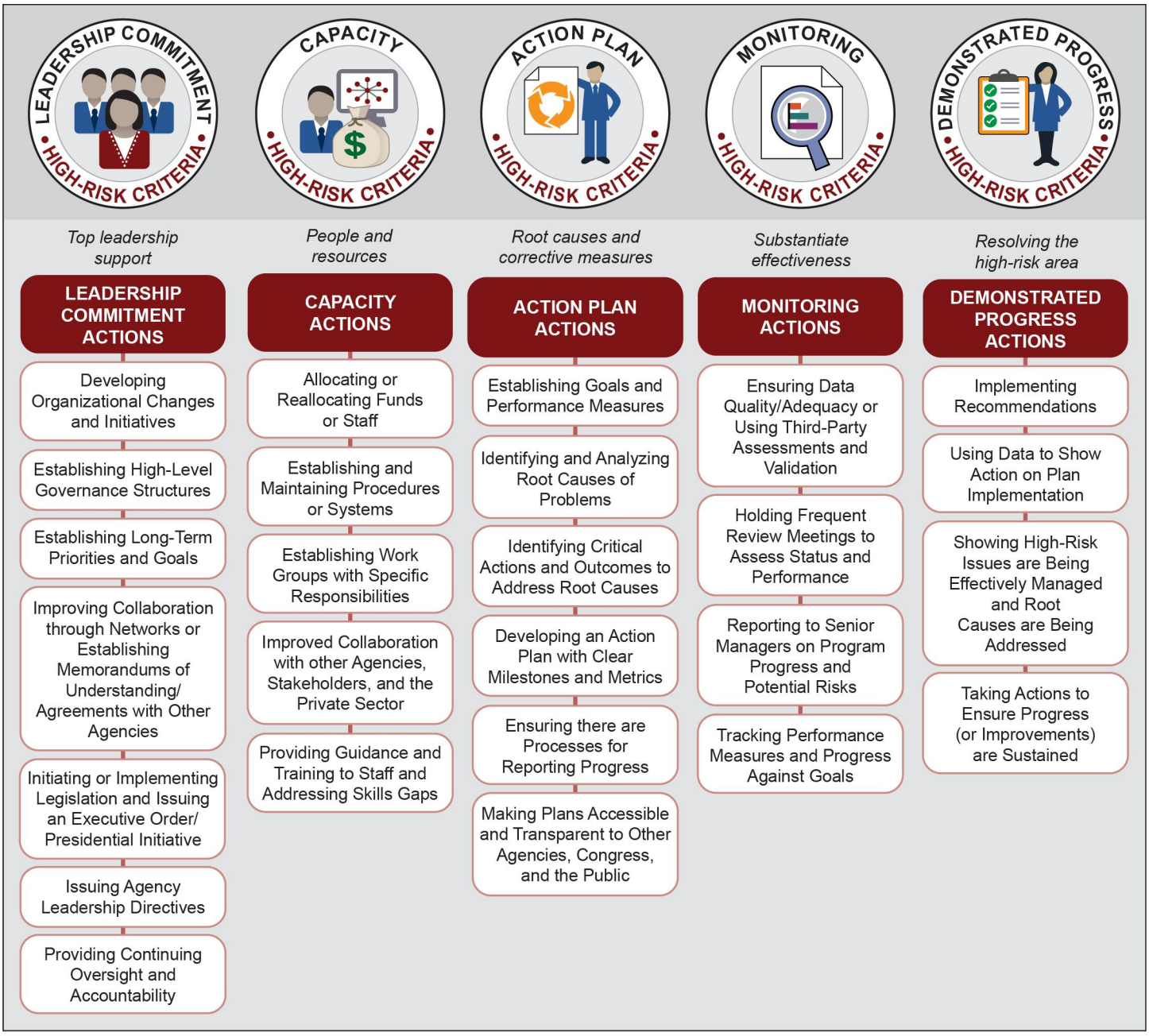
How Can Agencies Use the Criteria to Make Progress on High-Risk Issues?

The five criteria form a road map for efforts to improve and ultimately address high-risk issues. Addressing some of the criteria leads to progress, while satisfying all of the criteria is central to removal from the list. Our April 2016 report provided additional information drawn from our 2015 high-risk update on how agencies had made progress addressing high-risk issues.[4] We provided illustrative actions that agencies took that led to progress or removal from our High-Risk List. This information provides additional guidance to agencies whose programs are on the High-Risk List.

Figure 4 shows the five criteria and illustrative actions taken by agencies to address the criteria as cited in that report. Importantly, the actions listed are not "stand alone" efforts taken in isolation from other actions to address high-risk issues. That is, actions taken under one criterion may be important to meeting other criteria as well. For example, top leadership can demonstrate its commitment by establishing a corrective action plan including long-term priorities and goals to address the high-risk issue and using data to gauge progress—actions which are also vital to monitoring criteria.

[4]GAO, *High-Risk Series: Key Actions to Make Progress Addressing High-Risk Issues*, GAO-16-480R (Washington, D.C.: Apr. 25, 2016).

Figure 4: Criteria for Removal from the High-Risk List and Examples of Actions Leading to Progress



Source: GAO-16-480R. | GAO-17-317

How Are High-Risk Areas Rated?

In each of our high-risk updates, for more than a decade, we have assessed progress to address the five criteria for removing a high-risk area from the list. In our 2015 update, we added clarity and specificity to our assessments by rating each high-risk area's progress on the criteria and used the following definitions:

- **Met**. Actions have been taken that meet the criterion. There are no significant actions that need to be taken to further address this criterion.
- **Partially Met**. Some, but not all, actions necessary to meet the criterion have been taken.
- **Not Met**. Few, if any, actions towards meeting the criterion have been taken.

Figure 5 shows a visual representation of varying degrees of progress in each of the five criteria for a high-risk area. Each point of the star represents one of the five criteria for removal from the High-Risk List and each ring represents one of the three designations: not met, partially met, or met. An unshaded point at the innermost ring means that the criterion has not been met, a partially shaded point at the middle ring means that the criterion has been partially met, and a fully shaded point at the outermost ring means that the criterion has been met.

Further, a plus symbol inside the star indicates the rating for that criteria progressed since our last high-risk update in 2015. Likewise, a minus symbol inside the star indicates the rating for that criteria declined since our last update. At the bottom of the star graphic are summary statements showing the number of criteria that have been met as well as the number that progressed, declined, or both since the 2015 high-risk update.

Figure 5: High-Risk Progress Criteria Ratings

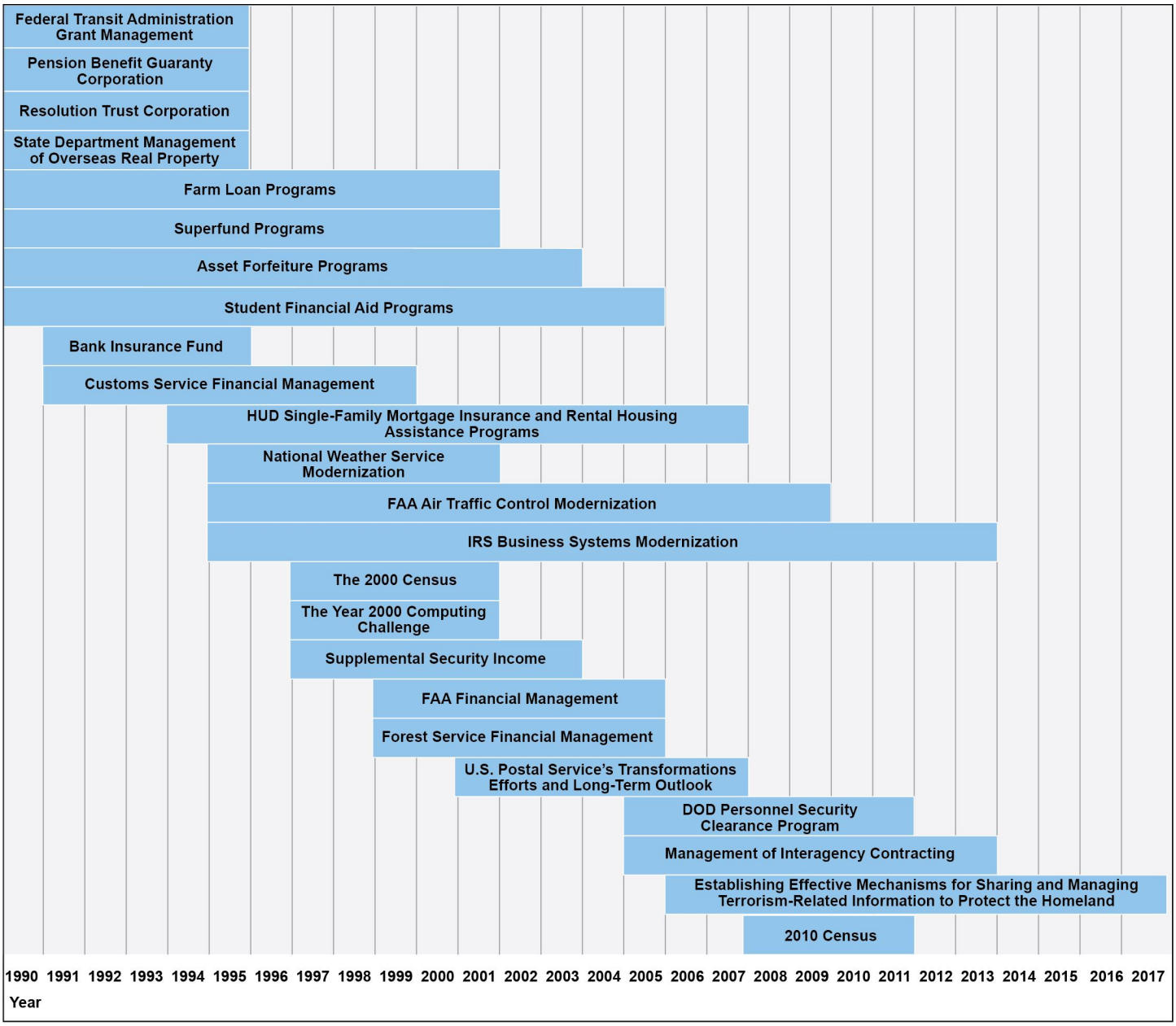
Source: GAO. | GAO-17-317

Some high-risk areas are comprised of segments or subareas that make up the overall high-risk area. For example, the high-risk area Transforming EPA's Process for Assessing Toxic Chemicals includes two segments—EPA's Integrated Risk Information System and the Toxic Substances Control Act—to reflect two interrelated parts of the overall high-risk area. Multidimensional high-risk areas such as these have separate ratings for each segment as well as a summary rating of the overall high-risk area that reflects a composite of the ratings received under the segment for each of the five high-risk criteria.

What Is the History of Programs Removed from the High-Risk List?

A summary of areas removed from our High-Risk List over the past 27 years is shown in figure 6.

Figure 6: History of Areas Removed from the High-Risk List



Source: GAO. | GAO-17-317

When Were Areas Added to the High-Risk List?

The areas on our 2017 High-Risk List, and the year each was designated as high risk, are shown in table 4.

Table 4: Year That Areas on GAO's 2017 High-Risk List Were Designated High Risk

Area		Year designated high risk
1.	Medicare Program	1990
2.	DOD Supply Chain Management	1990
3.	DOD Weapon Systems Acquisition	1990
4.	DOE's Contract Management for the National Nuclear Security Administration and Office of Environmental Management	1990
5.	NASA Acquisition Management	1990
6.	Enforcement of Tax Laws	1990
7.	DOD Contract Management	1992
8.	DOD Financial Management	1995
9.	DOD Business Systems Modernization	1995
10.	Ensuring the Security of Federal Information Systems and Cyber Critical Infrastructure and Protecting the Privacy of Personally Identifiable Information	1997
11.	DOD Support Infrastructure Management	1997
12.	Strategic Human Capital Management	2001
13.	Medicaid Program	2003
14.	Managing Federal Real Property	2003
15.	Improving and Modernizing Federal Disability Programs	2003
16.	Strengthening Department of Homeland Security Management Functions	2003
17.	Pension Benefit Guaranty Corporation Insurance Programs	2003
18.	DOD Approach to Business Transformation	2005
19.	National Flood Insurance Program	2006
20.	Funding the Nation's Surface Transportation System	2007
21.	Ensuring the Effective Protection of Technologies Critical to U.S. National Security Interests	2007
22.	Improving Federal Oversight of Food Safety	2007
23.	Modernizing the U.S. Financial Regulatory System and Federal Role in Housing Finance	2009
24.	Protecting Public Health through Enhanced Oversight of Medical Products	2009
25.	Transforming EPA's Processes for Assessing and Controlling Toxic Chemicals	2009
26.	Restructuring the U.S. Postal Service to Achieve Sustainable Financial Viability	2009
27.	Management of Federal Oil and Gas Resources	2011
28.	Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks	2013
29.	Mitigating Gaps in Weather Satellite Data	2013

Area		Year designated high risk
30.	Managing Risks and Improving VA Health Care	2015
31.	Improving the Management of IT Acquisitions and Operations	2015
32.	Improving Federal Programs that Serve Tribes and Their Members	2017
33.	U.S. Government's Environmental Liabilities	2017
34.	2020 Decennial Census	2017

Source: GAO. | GAO-17-317

Appendix II: Overview for Each High-Risk Area

The following pages provide overviews of the 34 high-risk areas on our updated list. Each overview discusses (1) why the area is high risk, (2) the actions that have been taken and that are under way to address the problem since our last update in 2015, and (3) what remains to be done. Each of these high-risk areas is also described on our High-Risk List website, http://www.gao.gov/highrisk/overview. We also provide additional details on the one area that was removed from the High-Risk List in 2017.

Strategic Human Capital Management

Why Area Is High Risk

Since we last reported on government-wide efforts to address skills gaps, the Office of Personnel Management (OPM), the Chief Human Capital Officers (CHCO) Council,[1] and individual agencies have strengthened their leadership over this area; however, OPM and agencies have only partially met the criteria for removal from the High-Risk List. Mission-critical skills gaps within the federal workforce pose a high risk to the nation. Regardless of whether the shortfalls are in such government-wide occupations as cybersecurity and acquisitions, or in agency-specific occupations such as nurses at the Veterans Health Administration (VHA), skills gaps impede the federal government from cost-effectively serving the public and achieving results. Agencies can have skills gaps for different reasons: they may have an insufficient number of people or their people may not have the appropriate skills or abilities to accomplish mission-critical work. Moreover, current budget and long-term fiscal pressures, the changing nature of federal work, and a potential wave of employee retirements that could produce gaps in leadership and institutional knowledge, threaten to aggravate the problems created by existing skills gaps. Indeed, the government's capacity to address complex challenges such as disaster response, national and homeland security, and rapidly-evolving technology and privacy security issues requires a skilled federal workforce able to work seamlessly with other agencies, with other levels of government, and across sectors.

We first added strategic human capital management to the High-Risk List in 2001.[2] In our 2015 update, we noted that while OPM and agencies had made strides in developing an infrastructure for identifying and

[1]The CHCO Council is an interagency body composed of the Director of OPM, the Deputy Director for Management at the Office of Management and Budget (OMB), CHCOs from Executive departments, and other members designated by the Director. The CHCO Council, among other things, advises OPM, OMB, and agency leaders on human capital strategies and policies as well as assesses federal workforce characteristics and future needs.

[2]GAO, *High-Risk Series: An Update,* GAO-01-263 (Washington, D.C.: Jan. 1, 2001).

addressing skills gaps, they needed to do additional work to more fully use workforce analytics to identify their gaps, implement specific strategies to address these gaps, and evaluate the results of actions taken so as to demonstrate progress in closing the gaps.[3] Mission critical skills gaps were also a factor in making other areas across government high risk. Of the 34 other high-risk areas covered in this report, 15 areas—such as IT management, acquisitions, and management of oil and gas resources—had skills gaps playing a contributory role.[4]

What GAO Found

Source: GAO analysis. | 2017 High Risk List GAO-17-317

[3]GAO, *High-Risk Series: An Update,* GAO-15-290 (Washington, D.C.: Feb. 11, 2015).

[4]The complete list of sections in this report that feature skills gap findings includes: Management of Federal Oil and Gas Resources; Managing Federal Real Property; Improving the Management of IT Acquisitions and Operations; Department of Defense (DOD) Business Systems Modernization; DOD Financial Management; Strengthening Department of Homeland Security (DHS) Management Functions; Ensuring the Security of Federal Information Systems and Cyber-Critical Information and Protecting the Privacy of Personally Identifiable Information; Protecting Public Health through Enhanced Oversight of Medical Products; Transforming the Environmental Protection Agency's (EPA) Processes for Assessing and Controlling Toxic Chemicals; DOD Contract Management; Department of Energy (DOE)'s Contract Management for the National Nuclear Security Administration and Office of Environmental Management; National Aeronautics and Space Administration (NASA) Acquisition Management; Enforcement of Tax Laws; Managing Risks and Improving Department of Veterans Affairs (VA) Health Care; and Improving Federal Management of Indian Programs.

Since we last reported on government-wide efforts to address skills gaps, OPM, the CHCO Council, and individual agencies have strengthened their leadership over this area, including establishing a new human capital framework to guide their efforts. In doing so, they have (1) taken important steps to institutionalize efforts to close skills gaps and (2) enhanced the analytical method used to identify skills gaps. However, OPM and agencies have only partially met the criteria for removal from the High-Risk List for developing the capacity to close skills gaps, designing and implementing action plan strategies for closing skills gaps, and monitoring efforts to close existing skills gaps as well as identify emerging ones. Additionally, OPM and agencies have not yet demonstrated sustainable progress in closing skills gaps.

To date, Congress has provided agencies with authorities and flexibilities to manage the federal workforce and make the federal government a more accountable employer. For example, Congress included a provision in the National Defense Authorization Act for Fiscal Year 2016 to extend the probationary period for newly hired civilian Department of Defense (DOD) employees from 1 year to 2 years.[5] As we noted in our 2015 report, better use of probationary periods gives agencies the ability to ensure an employee's skills are a good fit for all critical areas of a particular job. Dismissing employees who cannot do the work becomes more difficult and time consuming after the probationary period because of the procedural requirements agencies must follow and the greater appeal rights afforded.[6]

Further, oversight hearings held by the House and Senate focusing on federal human capital management challenges have been important for ensuring that OPM and agencies continue to make progress in acquiring, developing, and retaining employees with the skills needed to carry out the government's vital work.

What Remains to Be Done

OPM and agencies can continue taking actions to address skills gaps with respect to capacity, action plan, monitoring, and demonstrated

[5]Pub. L. No. 114-92, div. A, title XI, § 1105, 129 Stat. 726, 1023-1024, *codified at* 10 U.S.C. § 1599e.

[6]GAO, *Federal Workforce: Improved Supervision and Better Use of Probationary Periods Are Needed to Address Substandard Employee Performance*, GAO-15-191 (Washington, D.C.: Feb. 6, 2015).

progress. In particular, we have identified several priority recommendations to OPM, in its role as leader for human capital management in the federal government:

- OPM needs to strengthen the approach and methodology for addressing skills gaps by working with agencies to develop targets that are clear, measurable, and outcome-oriented.
- OPM needs to establish a schedule specifying when it will modify its EHRI database to collect staffing data, in concert with agency CHCOs, and needs to help bolster agencies' ability to assess workforce competencies, either by sharing competency surveys, disseminating lessons learned, or by other means.
- OPM, in consultation with the CHCO Council, should develop a core set of human capital metrics that agencies can use to monitor progress in closing skills gaps through HRstat reviews, and OPM should ensure that these efforts are coordinated with other agency skills gap initiatives.

Individual agencies must also take steps to address skills gaps identified in our prior work. For example, we recommended that the Department of Veterans Affairs (VA) institute a system-wide evaluation of the initiatives to recruit and retain VHA nurses.[7] Doing so could provide VHA with better data to identify resource needs across its medical centers and ensure that its nursing workforce is keeping pace with the health care needs of veterans. VA agreed with our recommendation and indicated in August 2016 that it had formed a working group that is charged with reporting on observations from data on recruitment and retention effectiveness by October 2017.

Continued congressional attention to improving the government's human capital policies and procedures will be essential going forward. For example, in our August 2016 report, to help improve the federal hiring process, we recommended that OPM assess the effectiveness of government hiring authorities to determine whether opportunities exist to refine, consolidate, eliminate, or expand them.[8] In cases where legislation would be necessary to implement changes, we recommended that OPM should work with the CHCO Council to develop legislative proposals.

[7]GAO, *VA Health Care: Oversight Improvements Needed for Nurse Recruitment and Retention Initiatives*, GAO-15-794 (Washington, D.C.: Sept. 30, 2015).

[8]GAO, *Federal Hiring: OPM Needs to Improve Management and Oversight of Hiring Authorities,* GAO-16-521 (Washington, D.C.: Aug. 2, 2016).

OPM concurred with this recommendation and said it would work with the CHCO Council and others to develop proposals as appropriate.

Additional Details on What GAO Found

Leadership Commitment

OPM and agencies have fully met the leadership criterion for removal from the High-Risk List. In December 2016, OPM finalized revisions to its strategic human capital management regulation that include the new Human Capital Framework.[9] This framework is to be used by agencies to plan, implement, evaluate, and improve human capital policies and programs. Additionally, the revised regulation provides that agency human capital policies and programs must monitor and address skills gaps within government-wide and agency-specific mission-critical occupations by using comprehensive data analytic methods and gap closure strategies. The revised regulation also requires that agency leadership participate in a quarterly, data-driven review process known as HRstat,[10] which, as we reported in 2015, could be an important tool in reviewing key performance metrics related to closing skills gaps.

OPM and the CHCO Council also improved the method that agencies use to identify mission-critical occupations with skills gaps, in response to our recommendation. We previously reviewed the CHCO Council's 2011-2012 efforts to identify skills gaps. We reported that those efforts lacked a quantitative grounding and the CHCO Council did not use workforce analytics, such as employee attrition rates, until after it had already selected an initial set of occupations based on qualitative methods.[11] In 2015, OPM and the CHCO Council worked with agencies to refine their inventory of government-wide and agency-specific skills gaps. They narrowed the scope for identifying skills gaps by using a quantitative multi-factor model—which included the 2-year retention rate, the quit rate,

[9]*Personnel Management in Agencies*, 81 Fed. Reg. 89,357 (Dec. 12, 2016) (*to be codified at* 5 C.F.R. pt. 250, subpt. B).

[10]OPM established HRstat as a pilot in May 2012 whereby agency CHCOs would hold quarterly review sessions to assess progress against performance metrics that contribute to agency human resources goals. This pilot built on the quarterly data-driven reviews that were required for agency priority goals under the GPRA Modernization Act of 2010.

[11]GAO, *Federal Workforce: OPM and Agencies Need to Strengthen Efforts to Identify and Close Mission-Critical Skills Gaps,* GAO-15-223 (Washington, D.C.: Jan. 30, 2015).

retirement rate, and average manager satisfaction with applicant quality. Using this model, OPM, the CHCO Council, and agencies identified six government-wide occupational areas with mission-critical skills gaps:

- Cybersecurity;
- Acquisition;
- Human Resources Specialist;
- Auditor;
- Economist; and
- The Science, Technology, Engineering, and Mathematics (STEM) functional area.

OPM and the CHCO Council asked individual agencies to use the same process to identify 2 to 3 occupations within their own agency, resulting in 48 unique occupations with agency-specific skills gaps among the 24 Chief Financial Officers Act agencies.

OPM also worked with the Office of Management and Budget (OMB) to issue guidance in November 2016 that outlined three broad objectives and seven practices agencies should use to achieve excellence in hiring.[12] As part of OPM's People and Culture Cross-Agency Priority goal, this memorandum encouraged agencies to, among other things, use data to inform workforce planning and strategic recruitment—as well as fully leverage relevant hiring authorities—consistent with our prior recommendations.

With these actions, OPM, the CHCO Council, and agencies have built a framework to address skills gaps. It will be important for OPM to sustain this leadership commitment through budgetary challenges and the transition to a new administration so that institutional gains are not lost.

Capacity

OPM and agencies have partially met this criterion. After agencies identified sets of occupations with skills gaps, OPM and the CHCO Council worked with the agencies to establish working groups of occupational leaders and CHCO representatives—known as Federal Agency Skills Teams (FAST). According to OPM, the FASTs are to

[12]OPM and OMB, *Institutionalizing Hiring Excellence to Achieve Mission Outcomes*, OMB and OPM Memorandum M-17-03 (Nov. 1, 2016).

analyze root causes, develop strategies to address skills gaps through action plans, and monitor progress in closing skills gaps within each occupation. Beginning in January 2017, each FAST for both government-wide and agency-specific skills gaps is to report quarterly to OPM on progress and ensure that action plan strategies and performance metrics are aligned with the root cause analyses performed by the FASTs. These institutional resources can help sustain efforts to address skills gaps going forward.

OPM has made less progress on other aspects of capacity building. For example, OPM has not finalized efforts to centralize collection of agency staffing data that could be used to detect emerging skills gaps. OPM officials have reported that modifying the Enterprise Human Resources Integration (EHRI) database to perform this function may not be feasible. Moreover, OPM officials reported that they were still working with stakeholders to develop a framework to assist agencies in assessing competencies. We reported, in 2015, that agencies vary in the extent to which they assess competencies, and thus some agencies have limited ability to respond to external workforce planning factors, despite the importance of conducting these assessments.[13] Without more rigorous data collection across government on the number and skills of people filling mission-critical occupations, OPM and agencies may be unable to build the predictive capacity to identify and address emerging skills gaps.

Action Plan

OPM and agencies have partially met this criterion. Working with the CHCO Council, OPM designed an action plan template that agency FASTs are to use as a model. In reviewing past efforts to address skills gaps, we found that agencies' planning documents did not always adhere to best practices for project planning. We found that some plans did not consistently identify the root causes of the skills gaps, assign roles and responsibilities for implementing actions, or develop and use outcome-oriented performance metrics.[14] OPM and the CHCO Council included all of these practices in their most recent template, which asks each agency FAST to identify key actions, responsible parties for those actions, milestones, time frames, and performance metrics for monitoring progress and skills gap risk reduction and closure. Moreover, the template asks FASTs to explain how the actions discussed in the

[13]GAO-15-223.

[14]GAO-15-223.

document relate to the root cause of that skills gap. Going forward, OPM and the CHCO Council will need to ensure that agencies and their FASTs use the template appropriately and incorporate the best practices into their action plans.

OPM has yet to show, however, whether agencies are consistently adopting these practices in their action plans. As of the end of 2016, nine agencies had not submitted action plans for closing skills gaps. OPM officials noted that they are still working with agencies on the submission of the outstanding plans.

Monitoring

OPM and agencies have partially met this criterion. Agencies can take a number of actions to meet the monitoring criterion for removal from the High-Risk List, such as (1) holding frequent review meetings to assess status and performance, (2) reporting to senior managers on program progress and potential risks, and (3) tracking progress against goals. As noted, OPM's revisions to its strategic human capital management regulations will require agency leadership to participate in quarterly, data-driven HRstat review sessions, and beginning in 2017 each FAST is to report quarterly to OPM and show that action plan strategies are aligned with monitored performance metrics. Together, these two actions could help ensure that skills gaps receive the visibility and attention of senior managers—as well as the accountability that comes from presenting quarterly results—that have been applied to other human capital challenges such as improving employee engagement.

However, OPM could do more to assist agencies in developing consistent practices for HRstat and to improve the visibility of skills gaps to managers. In 2015, we recommended that OPM work with the CHCO Council to develop a core set of metrics that agencies should use in HRstat to track common skills gap challenges, while still allowing agencies discretion to include metrics that meet their specific needs.[15] In response to our recommendation, OPM officials stated that they consider HRstat an agency-centric initiative and that, while OPM has no plans to prescribe a core set of skills gap metrics that all agencies must use for HRstat, OPM may recommend metrics for each type of skills gap challenge (e.g., training, recruitment, staffing, or competency assessments) that an agency may encounter. OPM has, however, used

[15]GAO-15-223.

its November 2016 guidance to recommend specific metrics to be tracked in HRstat that are tailored to improving hiring practices.[16] We maintain that this practice should be applied to skills gaps in general and that an appropriate core set of metrics would be beneficial because it would (1) help ensure agencies were monitoring skills gaps with a consistent set of robust metrics, (2) provide OPM and Congress greater visibility over government-wide progress in addressing skills gaps, and (3) help OPM and agencies target government-wide actions toward those areas where progress is lagging across agencies.

OPM officials have also said that they have no plans to require agencies to integrate the work of their FASTs with their HRstat reviews. OPM officials again cited deference to agencies on identifying the most appropriate metrics to use for their HRstat reviews. The quarterly reporting mechanism that OPM has instituted with each agency FAST could be an effective monitoring tool going forward; however, requiring agencies to routinely monitor skills gap metrics as part of the mandatory HRstat reviews could increase the visibility and urgency of skills gaps for top agency management.

Demonstrated Progress

OPM and agencies have not met this criterion because at present there are no government-wide targets or goals for closing skills gaps, and agencies are not reporting progress. In our 2015 review we reported that government-wide goals to close skills gaps lacked clarity and measurability. OPM previously had a Cross Agency Priority (CAP) goal to close skills gaps by 50 percent in at least 3 of the government-wide mission-critical occupations by the end of fiscal year 2013. The CAP Goal on skills gaps provided important visibility across the government. Following the expiration of this CAP Goal, the Fiscal Year 2015 Budget included a 4-year CAP Goal on People and Culture that included workforce planning elements related to skills gaps but had no government-wide performance targets for closing skills gaps. Currently there are no government-wide goals regarding skills gaps that have the same visibility that the prior CAP Goal provided. As a result, it is unclear what would be the appropriate yardstick for closing skills gaps across the government.

[16]OPM and OMB, *Institutionalizing Hiring Excellence to Achieve Mission Outcomes,* OMB and OPM Memorandum M-17-03 (Nov. 1, 2016).

OPM and agencies also have not reached the stage of reporting progress on strategies to close skills gaps. As part of the multi-year process OPM and the CHCO Council have developed with agency FASTs, OPM expects to see agencies reporting progress according to their performance metrics by September 2017. As noted above, not all agencies have even drafted action plans with performance metrics as of December 2016.

Strengthening agencies' abilities to identify and close skills gaps is critical because they can affect mission accomplishment across the government. Since our 2015 high-risk report, we have published over two dozen additional reports with findings related to skills gaps. Additionally, as noted above, 15 other sections in this report feature discussions related to skills gaps. Included in the examples below are issues found elsewhere in the 2017 high-risk report.

- **Information Technology (IT) Workforce.** We have underscored IT skills gaps in prior high-risk reports, and elements of the IT workforce– particularly cybersecurity– have been highlighted in OPM's skills gap efforts since 2011. Challenges remain in this area. In November 2016, we reported that five selected agencies[17] had not consistently applied key workforce planning steps and activities that help to ensure that program staff members have the knowledge and skills critical to successfully acquire IT investments.[18] Moreover, we reported in April 2016 that the Federal Emergency Management Agency (FEMA) had not established time frames for completing its workforce planning activities and lacked an understanding of its regional IT workforce.[19] In particular, FEMA's 2014 competency assessment only covered part of its IT workforce, and multiple regional offices told us that they faced shortages in IT staff, such as computer and network engineers. Without a better understanding of its current IT workforce, FEMA will be unable to address its workforce planning needs and may not have the skills needed to respond to major disasters. The Department of Homeland Security (DHS) concurred in April 2016 with our recommendation to establish time frames for current and future

[17]These five agencies are the Departments of Commerce, Defense, Health and Human Services, Transportation, and the Treasury.

[18]GAO, *IT Workforce: Key Practices Help Ensure Strong Integrated Program Teams; Selected Departments Need to Assess Skill Gaps,* GAO-17-8 (Washington, D.C.: Nov. 30, 2016).

[19]GAO, *Information Technology: FEMA Needs to Address Management Weaknesses to Improve Its Systems,* GAO-16-306 (Washington, D.C.: Apr. 5, 2016).

workforce planning, and we will verify these efforts going forward. See Improving the Management of IT Acquisitions and Operations on page 180 for more information.

- **Acquisition Management.** Agencies have continued to face challenges in hiring sufficient staff and in monitoring the competencies of its workforce in acquisitions, an area we have highlighted in prior high-risk reports. For instance, DHS's 2016 staffing assessments did not take into account all acquisition-related positions, potentially limiting DHS's insight into the size and nature of potential staffing shortfalls. DHS announced plans in December 2016 to pilot new staffing assessment guidance to be more inclusive of acquisition positions, but the timing of full implementation is not yet known. Additionally, in December 2015, we found that while DOD has assessed workforce competencies for nearly all of its 13 career acquisition fields, the agency has not established a timeline for reassessing competencies in 10 of those fields to gauge progress addressing previously identified gaps.[20] Officials agreed with our recommendation to work with functional leaders in setting timeframes for completing future career field competency assessments and, according to an October 2016 workforce strategic plan, intend to conduct career field competency assessments at a minimum of every 5 years. Doing so will better allow the agency to track improvements in the capability of a workforce that oversaw $273.5 billion in contracts for goods and services in fiscal year 2015. See Strengthening Department of Homeland Security Management Functions on page 354 and DOD Contract Management on page 483 for more information.
- **Oil and Gas Management.** In 2014, we recommended that The Department of the Interior (Interior) should collect data on hiring times and explore the expanded use of existing authorities to retain key oil and gas oversight positions, such as petroleum engineers, geologists, and geophysicists.[21] In September 2016, we found that Interior continued to face challenges hiring and retaining staff for these positions and has taken steps to address low salaries and lengthy hiring times for certain occupations but has not evaluated the

[20]GAO, *Defense Acquisition Workforce: Actions Needed to Guide Planning Efforts and Improve Workforce Capability,* GAO-16-80 (Washington, D.C.: Dec. 14, 2015).

[21]GAO, *Oil and Gas: Interior Has Begun to Address Hiring and Retention Challenges but Needs to Do More*, GAO-14-205 (Washington, D.C.: Jan. 31, 2014).

effectiveness of such measures.[22] Moreover, Interior has not evaluated training needs or the effectiveness of existing training and has not promoted collaboration across its bureaus to discuss and address shared hiring and retention challenges. We recommended that Interior take steps to evaluate its training programs and promote cross-bureau hiring collaboration. In response to our recommendations, Interior officials indicated that their Office of Policy, Management, and Budget would monitor cross-bureau collaboration on a range of issues including hiring, retention, and training through ongoing quarterly performance reviews and that Interior's bureaus would coordinate their training needs. See Management of Federal Oil and Gas Resources on page 136 for more information.

- **Veterans Health Administration (VHA) Human Resources Personnel.** In our December 2016 report on VHA's human resources (HR) capacity, we recommended that VHA (1) develop its own comprehensive competency assessment tool for HR staff that evaluates knowledge of all three of VHA's personnel systems and (2) ensure that all VHA HR staff complete it so that VHA may use the data to identify and address competency gaps among medical center HR staff.[23] Without such a tool, VHA will have limited insights into the abilities of its HR staff and be ill-positioned to provide necessary support and training. The Department of Veterans Affairs (VA) agreed with both recommendations and indicated it has realigned its HR training office to ensure that a comprehensive competency assessment tool be developed and implemented. See Managing Risks and Improving VA Health Care on page 627 for more information.
- **Oversight of Medical Products.** As part of our December 2016 report, we found that vacancies at foreign Food and Drug Administration (FDA) offices persist.[24] As of July 2016, 46 percent of foreign offices' authorized positions, including those covering staff conducting medical product investigations, were vacant, and we found that FDA still faces challenges in recruiting staff to these positions.

[22]GAO, *Oil and Gas Oversight: Interior Has Taken Steps to Address Staff Hiring, Retention, and Training but Needs a More Evaluative and Collaborative Approach,* GAO-16-742 (Washington, D.C.: Sept. 29, 2016).

[23]GAO, *Veterans Health Administration: Management Attention Is Needed to Address Systemic, Long-standing Human Capital Challenges*, GAO-17-30 (Washington, D.C.: Dec. 23, 2016).

[24]GAO, *Drug Safety: FDA Has Improved Its Foreign Drug Inspection Program, but Needs to Assess the Effectiveness and Staffing of Its Foreign Offices*, GAO-17-143 (Washington, D.C.: Dec. 16, 2016).

While FDA has set a goal for reducing this vacancy rate, the performance measure selected to track progress on this goal includes both foreign and domestic staff in FDA's Office of International Programs. FDA could thus fulfill its overall vacancy goal without lowering vacancies in foreign offices. The Department of Health and Human Services (HHS) agreed with our December 2016 recommendation to establish staffing goals by position type at foreign offices, and FDA indicated that recruiting and hiring have long been challenges at these offices. We will monitor future developments in FDA's foreign inspection staffing. See Protecting Public Health through Enhanced Oversight of Medical Products on page 400 for more information.

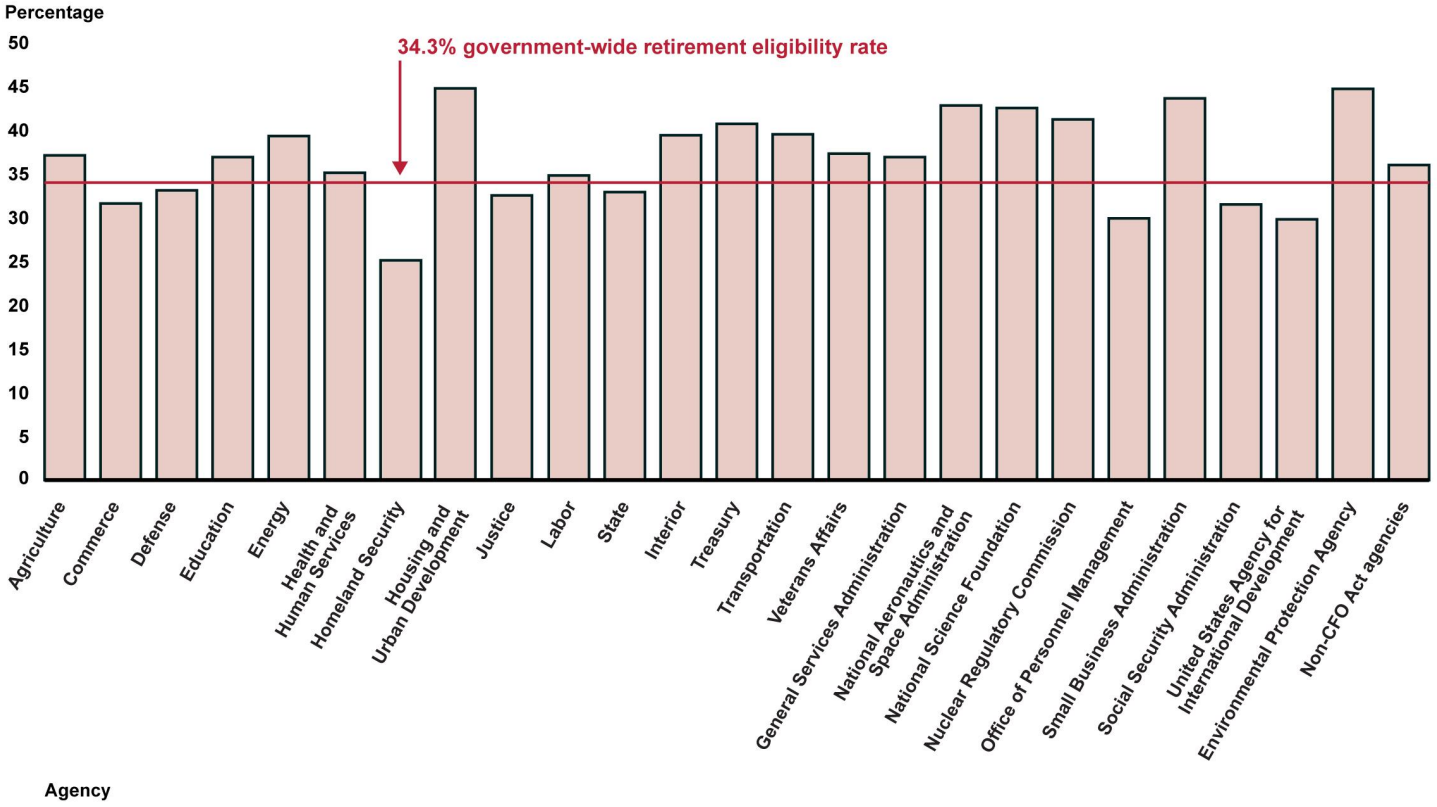
In addition, our work published since the 2015 high-risk report has identified additional skills gaps that will require agencies' attention because of their operational impact. For example, we reported in October 2015 that the Small Business Administration (SBA) did not have an up-to-date agency-wide competency assessment.[25] Officials said that when SBA centralized its loan processing functions—and thus removed these functions from the agency's district offices—as part of a 2004 reorganization, district offices had to take on new responsibilities, and certain staff no longer had skills that matched their day-to-day work. For example, employees with financial backgrounds—needed to process loans—were now asked to perform marketing and business development tasks. SBA also noted that the skills gap had been compounded by recent changes in job requirements and new initiatives that required new skill sets for its employees. SBA agreed with our recommendation to complete a workforce plan that includes a competency and skills gap assessment, and in October 2016 SBA indicated it had finalized such an assessment and would be incorporating it into its strategic workforce planning process.

Going forward, agencies will need to continue to monitor these and other existing and newly emerging skills gap challenges. Managing these challenges is especially important because, as we have reported previously, agencies are facing a wave of potential retirements, as figure 7 shows. According to OPM data, government-wide over 34 percent of federal employees on board by the end of fiscal year 2015 will be eligible to retire by 2020. Some agencies, such as the Department of Housing

[25]GAO, *Small Business Administration: Leadership Attention Needed to Overcome Management Challenges,* GAO-15-347 (Washington, D.C.: Sept. 22, 2015).

and Urban Development, will have particularly high eligibility levels by 2020.

Figure 7: Percentage of Career Permanent Employees, on Board as of September 30, 2015, Eligible to Retire by 2020 by Agency



Source: GAO analysis of Office of Personnel Management's Enterprise Human Resources Integration (EHRI) database. | GAO-17-317

Notes: Our calculations include permanent employees in the competitive service, the excepted service, and the senior executive service with all work schedules (e.g. full time, part time, seasonal, and intermittent). Retirement eligibility is not affected by work schedule. Temporary and term employees are excluded.

"Eligible to retire" is defined as the year in which a person is first eligible for retirement with unreduced annuity. Data are from the OPM EHRI database.

EHRI covers federal civilian employees at most Executive Branch agencies and some Legislative Branch agencies. Among those agencies excluded from EHRI are the Central Intelligence Agency and other intelligence organizations; the U.S. Postal Service; Tennessee Valley Authority; and the White House Office.

The total number of employees included in our calculations on Jan. 17, 2017 is 1,712,547.

Various factors can affect when individuals actually retire, and some amount of retirement and other forms of attrition can be beneficial because it creates opportunities to bring fresh skills on board and it allows

organizations to restructure themselves to better meet program goals and fiscal realities. But if turnover is not strategically monitored and managed, gaps can develop in an organization's institutional knowledge and leadership.

GAO Contact

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Related GAO Products

Veterans Health Administration: Management Attention Is Needed to Address Systemic, Long-standing Human Capital Challenges. GAO-17-30. Washington, D.C.: December 23, 2016.

Drug Safety: FDA Has Improved Its Foreign Drug Inspection Program, but Needs to Assess the Effectiveness and Staffing of Its Foreign Offices. GAO-17-143. Washington, D.C.: December 16, 2016.

IT Workforce: Key Practices Help Ensure Strong Integrated Program Teams; Selected Departments Need to Assess Skill Gaps. GAO-17-8. Washington, D.C.: November 30, 2016.

Oil and Gas Oversight: Interior Has Taken Steps to Address Staff Hiring, Retention, and Training but Needs a More Evaluative and Collaborative Approach. GAO-16-742. Washington, D.C.: September 29, 2016.

Aviation Security: TSA Should Ensure Testing Data Are Complete and Fully Used to Improve Screener Training and Operations. GAO-16-704. Washington, D.C.: September 7, 2016.

Federal Hiring: OPM Needs to Improve Management and Oversight of Hiring Authorities. GAO-16-521. Washington, D.C.: August 2, 2016.

Information Technology: FEMA Needs to Address Management Weaknesses to Improve Its Systems. GAO-16-306. Washington, D.C.: April 5, 2016.

Defense Acquisition Workforce: Actions Needed to Guide Planning Efforts and Improve Workforce Capability. GAO-16-80. Washington, D.C.: December 14, 2015.

VA Health Care: Oversight Improvements Needed for Nurse Recruitment and Retention Initiatives. GAO-15-794. Washington, D.C.: October 30, 2015.

Small Business Administration: Leadership Attention Needed to Overcome Management Challenges. GAO-15-347. Washington, D.C.: September 22, 2015.

Federal Workforce: Improved Supervision and Better Use of Probationary Periods Are Needed to Address Substandard Employee Performance. GAO-15-191. Washington, D.C.: February 6, 2015.

Federal Workforce: OPM and Agencies Need to Strengthen Efforts to Identify and Close Mission-Critical Skills Gaps. GAO-15-223. Washington, D.C.: January 30, 2015.

Managing Federal Real Property

Why Area Is High Risk

The federal government's real estate portfolio is vast and diverse—including approximately 273,000 buildings that are leased or owned in the United States and that cost billions of dollars annually to operate and maintain by civilian and defense agencies.[1] Since federal real property management was placed on the High-Risk List in 2003, the federal government has given high-level attention to this issue, such as issuing the National Strategy for the Efficient Use of Real Property (National Strategy) in 2015, which provides a foundation to further assist agencies in strategically managing their real property inventories. However, federal agencies continue to face long-standing challenges in several areas of real property management, including: (1) disposing of excess and underutilized property effectively, (2) relying too heavily on leasing, (3) collecting reliable real property data to support decision making, and (4) protecting federal facilities. Issues with the reliability of the Federal Real Property Profile (FRPP) data—particularly the utilization variable—make it difficult to quantify the overall number of vacant and underutilized federal buildings.

In September 2016, we reported on some vacant properties in the Washington, D.C., area that illustrate the challenges associated with disposing of or repurposing vacant property.[2] Figure 8 illustrates the following examples:

- **The Cotton Annex:** This building, held by the General Services Administration (GSA), which serves as the federal government's primary disposal agent, is located just a couple blocks off the National

[1]This number reflects the most recent data—as of September 30, 2015—on leased and federally owned properties reported by Chief Financial Officer (CFO) Act agencies that report into the Federal Real Property Profile (FRPP). Some agencies, such as the United States Postal Service, are not required to submit real property data to the FRPP and are therefore not included in this summary.

[2]GAO, *Federal Real Property: Efforts Made, but Challenges Remain in Reducing Unneeded Facilities*, GAO-16-869T (Washington, D.C.: Sept. 23, 2016).

Mall in Washington, D.C., is approximately 118,000 gross square feet and has been vacant since 2007. In 2016, we found that GSA's recent attempt to exchange the property for construction services failed when GSA was unable to obtain sufficient value from the exchange, making the fate of this unneeded building unclear.

- **GSA Warehouses:** In 2014, we found that some GSA warehouses listed in FRPP as used had been vacant for as long as 10 years. GSA only lists warehouses as unused if they are in the process of being disposed. Interpreting use this way in FRPP caused GSA to list as used some warehouses that had been vacant for years. We made a priority recommendation to GSA, to improve the way GSA manages its warehouses. According to GSA officials, they are in the process of developing a Guide for Strategic Warehouse Planning.
- **St. Elizabeths:** The west campus of St. Elizabeths, a National Historic landmark in Washington, D.C., is made up of 61 buildings on about 182 acres. Many buildings have been vacant for extended periods of time and are in badly deteriorated condition. As we reported in 2014, GSA developed a plan to establish a consolidated headquarters for the Department of Homeland Security (DHS) on the site in 2009.[3] Since then, GSA has completed construction of a new headquarters building for the Coast Guard on the campus, but most of the project has been delayed. The estimated timeline for completing the project has been extended multiple times, from an initial estimated completion date of 2016, to an estimated completion date of 2021 based on a scaled back plan as of 2015.

In addition, the federal government continues to face challenges in protecting federal facilities from potential attacks. For example, DHS's Federal Protective Service (FPS), responsible for the physical protection of 9,500 federal facilities, continues to work to apply a risk-based approach for assessing facilities and ensuring that guards are adequately trained. In January 2017, we also reported that GSA is leasing from foreign owners about 3.3 million square feet in 20 buildings that require higher levels of security that could present security risks, such as espionage and unauthorized cyber and physical access.[4]

[3]GAO, *Federal Real Property: DHS and GSA Need to Strengthen the Management of DHS Headquarters Consolidation*, GAO-14-648 (Washington, D.C.: Sept. 19, 2014).

[4]GAO, *Federal Real Property: GSA Should Inform Tenant Agencies When Leasing High-Security Space from Foreign Owners,* GAO-17-195 (Washington, D.C.: Jan. 3, 2017).

Figure 8: Examples of Vacant Federal Buildings (the Cotton Annex, vacant General Services Administration warehouse, and a vacant building at St. Elizabeths)

Source: GAO. | GAO-17-317

What GAO Found

Source: GAO analysis. | 2017 High Risk List GAO-17-317

The federal government continues to meet the high-risk criterion for demonstrating leadership commitment to improving the management of real property by executing a number of reform efforts since the last high-risk update in 2015. For example, the Office of Management and Budget (OMB) has issued several key guidance documents since 2015. Most notably, OMB introduced the National Strategy in March 2015, and more recently issued a memo on Improving Federal Real Property Data Quality in January 2016. In response to OMB's memo, GSA issued its Federal Real Property Data Validation and Verification (V&V) Guidance in May 2016. These actions represent key examples of the federal government's continued commitment to improve its management of real property. The federal government has also continued to make progress toward

increasing its capacity, developing an action plan, and monitoring its progress toward improving real property management and has made improvements in the demonstrating progress criterion to move it from a not met to a partially met rating. For example, in June 2016, OMB and GSA continued efforts to implement our March 2016 recommendation to improve FRPP data quality by conducting an in-depth survey of agencies and soliciting information on several data elements that have been known to be unreliable. GSA issued a memo in December 2016 to Chief Financial Officer (CFO) Act agencies that revised the definitions to improve the consistency and quality of several FRPP data elements. GSA also launched the Asset Consolidation Tool, a software application that allows federal agency users to generate geospatial information about assets in close proximity to identify potential candidates for colocation and consolidation. In addition, GSA implemented two priority recommendations since 2015 related to improving data reliability and is taking steps toward developing a 5-year capital plan.

Although progress is evident, these reforms have not fully addressed the underlying challenges to manage real property efficiently. For example, we found that federal agencies have not demonstrated that they have the capacity to reduce their reliance on costly leases, particularly high-value leases where owning properties would be less costly in the long run. GSA has also made strides to improve data reliability, including but not limited to issuing new data validation and verification guidance that requires agencies to investigate anomalies and resolve them. However, GSA will not finish measuring and tracking the progress of its data reliability efforts until late in 2017; agencies submitted their first data under the new approach in December 2016 and address all data irregularities by October 2017.

Related to physical security, we found that the federal government could do more to improve capacity, monitoring, action plans, and demonstrate progress. For example, FPS, GSA, and other agencies could improve the action plan criterion by collaborating and by clearly defining roles and responsibilities to adequately protect federal facilities. Further, FPS has taken some action to demonstrate progress but has yet to fully implement our March 2015 and September 2013 recommendations to improve security screening at federal buildings and guard training, respectively.

In December 2016, Congress enacted two real property reform bills that could address the long-standing problem of federal excess and underutilized property. The Federal Assets Sale and Transfer Act of 2016 may help address stakeholder influence by establishing an independent

board to identify and recommend at least five high-value civilian federal buildings for disposal within 180 days after the board members are appointed, as well as develop recommendations to dispose and redevelop federal civilian real properties.[5] Additionally, the Federal Property Management Reform Act of 2016 codified the Federal Real Property Council (FRPC) for the purpose of ensuring efficient and effective real property management while reducing costs to the federal government.[6] The FRPC is required to establish a real property management plan template, which must include performance measures, and strategies and government-wide goals to reduce surplus property or to achieve better utilization of underutilized property. In addition, federal agencies are required to annually provide FRPC a report on all excess and underutilized property and identify leased space that is not fully used or occupied.

What Remains to Be Done

While the federal government has made progress on different aspects of managing federal real property, additional work is needed. In order to further improve the management of real property, OMB and GSA should implement our open recommendations to build upon the National Strategy and improve data reliability. Improving data reliability was also included as a priority recommendation in our August 2016 letter to the GSA Administrator. While the National Strategy mentions some underlying causes of the challenges that federal agencies face in managing their portfolios, it does not expound on the extent to which these challenges impede agencies' ability to dispose of, better utilize, or repair their real property and offers discussion on how agencies can overcome these challenges by addressing the underlying causes, such as legal and budgetary limitations and competing stakeholder interests.

OMB also could increase the usefulness of the National Strategy by discussing alternative funding mechanisms, such as retaining fees and enhanced-use leasing. Further, despite OMB's efforts to focus agencies' attention on measuring progress through the Reduce the Footprint policy, the government's efforts to monitor progress remain limited without reliable real property data in the FRPP. In June 2016, OMB and GSA

[5]Pub. L. No. 114-287, 130 Stat. 1463 (Dec. 16, 2016). The act excludes properties on military installations among other types of properties.

[6]Pub. L. No. 114-318, 130 Stat. 1608 (Dec. 16, 2016).

officials noted that they continue to implement our March 2016 recommendation to analyze the differences in how agencies collected and reported data by conducting a survey of agencies that contribute FRPP data on several key indicators such as status, utilization, and replacement value. GSA plans to convene an inter-agency working group in early 2017 to discuss each of the data elements and devise an action plan to address the findings of the survey.

To further build capacity and develop action plans for reducing the federal government's overreliance on costly leasing, GSA should implement our priority recommendation from 2013 to develop a strategy for the federal government to own rather than lease prioritized high-value properties such as agency headquarters buildings. While GSA has taken some steps to increase its capacity to make its existing leasing program less costly by increasing competition, further action is required to decrease leasing costs by reducing unneeded fees, which is one of our priority recommendations.

Finally, FPS, GSA, and other agencies can take additional measures to increase capacity, develop action plans, and monitor as well as demonstrate progress in securing federal facilities and courthouses. For example, FPS can take additional action to address our March 2016 recommendation to improve human capital planning by developing performance measures with targets that are aligned to FPS goals. FPS and the Department of Justice's (DOJ) U.S. Marshals Service (USMS) can continue work they have under way to implement our March 2015 recommendation to improve their security screening at federal buildings and courthouses. Further, FPS should implement our September 2013 recommendation to ensure that all guards have received screening and active-shooter training. Finally, the Administrator of GSA and the Secretary of Homeland Security should work jointly to implement our other open priority recommendation to improve the management of the Department of Homeland Security headquarters consolidation project.

Additional Details on What GAO Found

Excess and Underutilized Property

Source: GAO analysis. | 2017 High Risk List GAO-17-317

Leadership Commitment

OMB continues to meet this criterion by demonstrating leadership commitment to reducing the amount of excess and underutilized federal real property. In March 2015, OMB implemented our recommendation by issuing government-wide guidance—the National Strategy—which identifies actions to reduce the size of the federal real property portfolio by prioritizing consolidation, colocation, and disposal actions. The strategy provides a foundation to further assist agencies strategically manage their real property. In conjunction with the National Strategy, OMB also issued the Reduce the Footprint policy, which requires all CFO Act agencies to implement a 5-year, rolling planning process that sets annual square-feet reduction targets to reduce their real property portfolios and to adopt space design standards to optimize domestic office space use.

Capacity

OMB and federal real property-holding agencies continue to partially meet the criterion for having the capacity to address the risks associated with managing excess and underutilized property. For example, GSA introduced the Asset Consolidation Tool in June 2016. It allows users to identify potential candidates for colocation and consolidation by

generating geospatial information about assets in close proximity. In addition, GSA also introduced the Real Property Management Tool that uses multiple sources to help agencies identify opportunities for property consolidations, collocations, and disposals. While progress is evident, we have previously identified additional ways the federal government can strengthen its capacity to reduce excess and underutilized property. In 2016, we reported that the National Strategy mentions some of the causes underlying the challenges federal agencies face in managing their portfolios—such as limited funding—but it neither addresses the extent to which challenges impede agencies' abilities to dispose of, better use, or repair their real property, nor does it offer guidance on how agencies can overcome these challenges by addressing the underlying causes.[7]

Furthermore, the strategy does not discuss alternative-funding mechanisms that we have previously identified to help manage budgetary constraints, such as retaining fees in real property and exploring enhanced use lease authority.[8] OMB staff told us that their efforts are focused on identifying policy options within the current statutory framework to reduce excess and underutilized property while seeking legislative options to address the underlying challenges. We recommended that OMB expand the National Strategy to more clearly articulate planned actions and identify alternative approaches to address underlying causes of real property problems. In June 2016, OMB staff told us that they plan to expand the National Strategy since it is not a one-time policy but a living document that they plan to use to address long-standing challenges. As of December 2016, OMB had not made any changes to the National Strategy.

Action Plan

OMB showed improvement and met the criterion of establishing an action plan for reducing excess and underutilized property. Under the Reduce the Footprint policy, OMB has, for the first time, established a government-wide action plan to use property as efficiently as possible and to reduce agency portfolios through annual reduction targets. For example, the Reduce the Footprint policy requires agencies to develop

[7]GAO, *Federal Real Property: Improving Data Transparency and Expanding the* National Strategy *Could Help Address Long-standing Challenges,* GAO-16-275 (Washington, D.C.: Mar. 31, 2016).

[8]Some of these alternative mechanisms allow selected agencies to meet their real property needs by leveraging other authorized resources, such as retained fees or land swaps with a private sector partner.

and submit annual Real Property Efficiency Plans, which describe the agency's overall strategic and tactical approach in managing its real property, including measures to dispose of unneeded properties, improve efficiency, and save money. The policy also requires agencies to adopt space design standards to optimize how they use domestic office space and to set annual square foot reduction targets for their portfolio of office and warehouse space.

Monitoring

OMB and federal real property-holding agencies continue to partially meet the criterion for monitoring progress toward reducing excess and underutilized real property. To implement the National Strategy, the Reduce the Footprint policy requires agencies to set annual reduction targets to measure agency performance. When agencies combine these reduction targets with the fiscal year 2014 benchmarking metrics developed under the President's Management Agenda, the government has a 3-year set of performance measures to drive portfolio-wide efficiency improvements and property disposals. Despite multiple efforts outlined above, the government's efforts remain limited without reliable real property data in the FRPP, which is necessary to effectively measure reductions in excess and underutilized property. For example, in our March 2016 report, we found that agencies tailored how they collect and report data to meet their mission needs and portfolio requirements, thus limiting OMB's and GSA's insight into the quality of the FRPP data and the extent to which agencies are following sound and comparable collection and reporting practices.

For example, our review found that some of the agencies estimated, rather than determined, actual operating costs for each building, as these agencies do not maintain data on costs for specific buildings. As a result, standardizing data has been challenging since agencies have applied different approaches to collecting data that align closely with their mission but that in some cases are inconsistent with existing GSA guidance. In December 2016, GSA issued a memo to senior real property officers of the FRPC that revised the definitions to improve the consistency and quality of several FRPP data elements including replacement value, annual maintenance costs, and annual operating costs. Although a step in the right direction, agencies are not required to implement these revised definitions until the December 2018 FRPP reporting cycle.

Demonstrated Progress

Since the last high-risk update, OMB and GSA have demonstrated some progress and partially met this criterion by taking a number of steps to reduce excess and underutilized properties. GSA implemented a new asset management tool, the Federal Real Property Profile Management System (FRPP MS), which helps agencies identify opportunities to consider new space and improves transparency by enabling agencies to access each other's data. GSA officials said that the new platform will include capabilities to help identify underutilized properties and potential candidates for colocations and consolidations and address long-standing management challenges, while OMB staff noted that the new platform has the potential to improve real property data management. Further, OMB reported, in September 2016, that in fiscal years 2014 and 2015 the federal government disposed of over 12,000 buildings with 71.8 million square feet of space, saving $64 million in annual operation and maintenance costs. While progress is apparent, we testified in September 2016 that a lack of reliable data makes it difficult to accurately measure the amount of excess property and has undermined efforts to effectively reform real property management and judge progress. In two assessments of the federal government's reported results of real property reforms, we identified problems with data reliability. While OMB and GSA have taken steps to address some of these data reliability issues such as revising FRPP definitions to improve data quality and consistency, more time is needed to determine the effectiveness of these measures and to demonstrate that the federal government's real property data are reliable.

Costly Leasing

Source: GAO analysis. | 2017 High Risk List GAO-17-317

Leadership Commitment

OMB and GSA continue to meet this criterion and demonstrate leadership commitment in addressing its overreliance on leasing privately owned space in situations where owning buildings would be more cost efficient in the long run. As previously stated, OMB implemented our recommendation in March 2015 to issue a National Strategy, which requires agencies to identify opportunities to consolidate within their leased assets and to improve space utilization, steps that would reduce leasing. In addition, GSA could also save money by reducing the costs of the leases that remain. For example, GSA has implemented a number of measures, including leasing reform, and, at a June 2015 hearing, a top GSA manager stated that the agency's ongoing lease reform efforts include plans to reduce costs by increasing competition for its leases.[9]

[9]Statement by Commissioner of Public Buildings Service, U.S. General Services Administration at U.S. Senate Homeland Security and Governmental Affairs Committee Hearing, *Federal Real Property Reform: How Cutting Red Tape and Better Management Could Achieve Billions in Savings* (Washington, D.C.: June 16, 2015).

Capacity

GSA still does not meet this criterion as it has not demonstrated that it has the capacity to reduce its reliance on costly leases, particularly high-value leases that represent a disproportionately large amount of the rent GSA pays. Although GSA has taken some actions to reduce the size of its leases, it has not addressed its overall reliance on high-value leases (defined as $2.85 million and over per year in rent) in situations where ownership would be less expensive in the long run. In particular, GSA has not implemented our 2013 recommendation to develop a strategy to increase ownership investments for a prioritized list of high-value leases where it would be less expensive in the long run to own.[10] GSA has taken some steps to increase its capacity to reduce the cost of its existing leasing program by increasing competition for GSA leases but has not implemented our other recommendation to decrease leasing costs by reducing interest fees. For example, we found that GSA could potentially help tenant agencies save millions of dollars for some leases by loaning them the funds needed to improve newly leased spaces—that is, to make tenant improvements—instead of having the tenants finance these costs with private-sector owners at private-sector interest rates as high as 9 percent over the term of the lease.

Action Plan

GSA showed improvement and partially met the action plan criterion by taking some steps to rank and prioritize long-term ownership solutions for current high-value leases. For example, GSA developed and provided us a list of criteria to rank and prioritize the space needs that are currently being met in high-value leases to determine which of those leases would benefit most from converting to a federally owned solution. GSA has also implemented a new software program for its 5-year capital-planning process that considers avoiding lease costs, among many other criteria, in prioritizing projects for approval. According to GSA officials, several of the projects approved in the capital plan covering fiscal years 2015-2019 would reduce lease costs by moving tenants out of leases into federally owned property. These efforts are producing incremental progress, but GSA has not implemented our recommendation to create a long-term, cross-agency strategy for considering targeted investments in ownership.

[10]GAO. *Federal Real Property: Greater Transparency and Strategic Focus Needed for High-Value GSA Leases,* GAO-13-744 (Washington, D.C.: Sept. 19, 2013).

In addition, we reported, in January 2016, that while GSA has taken steps to reform leasing and reduce leasing costs, certain factors—such as a tenant agency's need for space in restricted geographic areas and specialized building requirements—may drive down competition and result in agencies obtaining leasing rates that are higher than local market rates.[11] Developing additional plans to reduce barriers to competition, where possible, and identifying sources of capital to allow tenants to fund tenant improvements could decrease leasing costs and lead to millions in cost savings for some leases.

Monitoring

OMB and GSA have shown improvement and partially met the criterion for monitoring progress toward reducing its overreliance on leasing privately owned space. By issuing the National Strategy, OMB instituted key property management reform by requiring agencies to measure the costs and utilization of individual real property assets to support more efficient use of federal space, which would include reducing the amount of space leased. However, GSA has not implemented our recommendation to set a long-term, cross-agency strategy for investing in ownership, which would improve the ability to monitor and track progress by defining success. As previously mentioned, adopting criteria to rank and prioritize potential long-term ownership alternatives to current high-value leases could help develop goals and a strategy to consider targeted investments in ownership specifically related to these costly leases. With regard to the costs of leasing, GSA is making progress by monitoring the extent to which its leases are competitive and signed at rates below the private sector. However, GSA should also implement our 2016 recommendations to reduce the costs to tenants by exploring strategies to enhance competition for GSA leases and reducing unneeded fees.

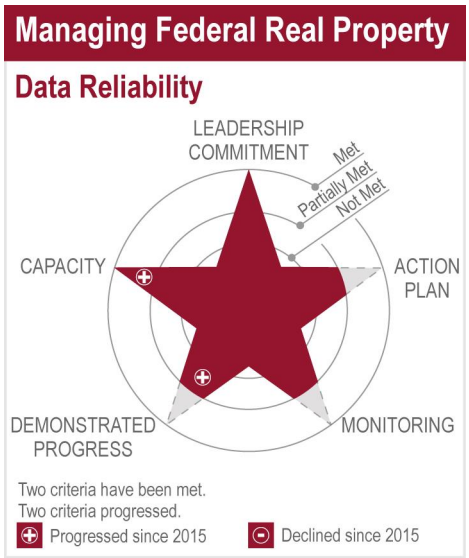
Demonstrated Progress

OMB and GSA have demonstrated some progress since 2015 and partially met this criterion. OMB required agencies to reduce their overall footprint through the Reduce the Footprint policy and the National Strategy. Even though the National Strategy does not directly address the issue of leasing, it requires agencies to adopt space design standards to optimize how they use federal domestic office space, a step that would

[11]GAO, *Federal Real Property GSA Could Decrease Leasing Costs by Encouraging Competition and Reducing Unneeded Fees,* GAO-16-188 (Washington, D.C.: Jan. 13, 2016).

likely include reducing leased space by using space more efficiently and consolidating leases onto federally owned property. According to GSA data, the amount of space that GSA leases has fallen for 3 straight years, but only by 4 percent since 2013. GSA's recent progress in reducing its reliance on leasing has been modest. GSA has outlined a number of actions that it has taken to implement our January 2016 recommendation to reduce leasing costs for federal agencies by increasing competition for GSA leases. Specifically, it has established a framework for broadening the delineated geographic areas agencies request—a key driver for competition. GSA officials said in 2016 that the agency has also implemented a performance measure to encourage competition. As a result, GSA said that 81 percent of its leases are competitive. However, these steps to reduce the costs of leases are still too recent to clearly demonstrate progress. Further, fully implementing our recommendation for GSA to develop and use criteria to rank and prioritize potential long-term ownership solutions to create a cross-agency strategy for making those investments is a needed first step in addressing its overreliance on leasing that could then lead to demonstrating progress in saving money in the long term.

Data Reliability



Source: GAO analysis. | 2017 High Risk List GAO-17-317

Leadership Commitment

The federal government continued to demonstrate leadership commitment and met this criterion by taking a number of steps to improve data reliability within the FRPP. In addition to the National Strategy, which called for additional data quality improvements that support data-driven decision making, in January 2016, OMB issued a government-wide memo requiring all CFO Act agencies to implement standard data validation and verification checks when submitting their annual FRPP data to GSA beginning in fiscal year 2017. Subsequently, in May 2016, GSA issued its Federal Real Property Data Validation and Verification (V&V) Guidance, which establishes a new mandatory data validation and verification process and requires agencies to investigate data anomalies.

Capacity

OMB and GSA improved the government's capacity to ensure that reliable data are available to inform real property decision making through a series of reforms to FRPP and now meet this criterion. For example, GSA upgraded FRPP from its legacy system to a new platform with several enhancements and tools. The new FRPP MS is an asset management tool that now supports the new Asset Consolidation Tool, which helps agencies identify opportunities to consider new space and improves transparency by enabling agencies to access each other's data. GSA has also improved agencies' capacity to submit accurate data by improving the clarity of variables and helping with data verification.

Action Plan

GSA continues to partially meet this criterion by putting plans in place to continue implementing our recommendations aimed at addressing the reliability of federal real property data. In June 2016, OMB and GSA noted that they continue to implement our recommendation to improve FRPP data quality by conducting an in-depth survey focusing on several data elements including replacement value, status, owned and otherwise managed operating costs, repair needs, utilization, and lease costs. GSA officials told us that they implemented the survey to better understand the methods CFO Act agencies are employing to collect and prepare real property data submitted into the FRPP. Each survey question began with the FRPP definition for a specific data element, followed by a series of questions designed to elicit information about how each agency applies the FRPP reporting requirements. GSA completed its analysis of the survey results, and in December 2016, GSA issued a memorandum to

senior real property officers of FRPC based on the survey results designed to improve the consistency and quality of real property data. In addition, GSA plans to convene an inter-agency working group—made up of GSA, OMB, and executive branch agencies that contribute data to the FRPP—in early 2017 to discuss each of the data elements and devise an action plan to address the findings of the survey. The working group will review the survey results in more detail and reach consensus on: (1) changes to the definitions and requirements for these data elements in the FRPP data dictionary; (2) limitations on the use of the data for cross-agency analysis, and (3) best practices and methodologies for reporting these data elements.

Monitoring

The federal government continues to partially meet the criterion for monitoring progress toward improving FRPP data reliability. With OMB issuing its January 2016 memo on improving federal real property data quality and GSA issuing its recent V&V guidance, agencies will be required to adhere to a revised process for resolving data anomalies when they submit data into the FRPP. Specifically, the V&V guidance now includes a new mandate—referred to as anomaly resolution—that requires agencies to investigate whether the underlying data flagged by the anomalies are accurate or inaccurate. GSA's updated information technology platform, FRPP MS, allows GSA and agencies to analyze the numbers and percentages of anomalies resolved versus total number of assets in a given anomaly category. The system will maintain records of data anomalies for each year that V&V is performed. Moreover, agencies will have year-to-year records of all data tagged as anomalous, as well as the reason for the tag. This has the potential to improve data quality, promote consistency among agencies, and enable OMB and other policymakers to measure how data quality improves over time. Although a step in the right direction, measuring and tracking the progress of these V&V checks will have to wait several years, as agencies submitted data under the new approach in December 2016, and will be required to address all data irregularities by October 2017.

Demonstrated Progress

GSA showed improvement since 2015 and partially met the demonstrating progress criterion by improving the reliability of federal real property data, but challenges still remain. In March 2016, we reported that OMB and GSA took important steps to revise and modify several FRPP data definitions based upon user feedback and internal data

evaluations.[12] As previously mentioned, GSA issued its federal real property data validation and verification guidance, requiring agencies to confirm whether data flagged as anomalous are accurate or inaccurate, and has plans in place to address our recommendations through the recent survey it administered. However, until GSA acts on these survey findings and takes concrete steps to address differences in data collection and identify any limitations, the usefulness of FRPP data for decision making will remain unclear. For example, in our March 2016 report, we found that some of the agencies in our review estimated, rather than determined, actual operating costs into FRPP for each building, as these agencies do not maintain data on costs for each specific building. Estimating practices also varied by agency. As a result, it may be difficult for OMB or agencies to accurately determine aggregate cost savings from successfully reducing excess or underutilized property. Finally, it is unlikely that all of the data for 2 dozen variables submitted by agencies each year on over half a million buildings and structures will ever be completely correct and consistent. As a result, GSA should fully implement our 2016 recommendation to assess, analyze, and identify any limitations in how agencies collect and report data to FRPP.

Physical Security

Source: GAO analysis. | 2017 High Risk List GAO-17-317

[12]GAO-16-275.

Leadership Commitment

The federal government continued to meet the criterion for demonstrating leadership commitment to improving the physical security of federal facilities. In August 2013, the Interagency Security Committee (ISC), a DHS-chaired organization, showed leadership commitment by issuing a consolidated set of standards for physical security at federal facilities, called The Risk Management Process for Federal Facilities: An Interagency Security Committee Standard. In January 2016, it continued to show leadership commitment by updating the Risk Management Process elements related to current threats, countermeasures to mitigate the threats, and the protection level for federal child care centers. In 2015, FPS, which protects about 9,500 federal facilities in conjunction with GSA, implemented our recommendation by issuing a revised government facilities sector plan that identifies goals and describes resources that support the risk management approach.

Capacity

FPS and GSA continued to partially meet the criterion for having the capacity to address the risks associated with ensuring the safety of our federal facilities. For example, FPS developed a Strategic Human Capital Plan that included strategies tailored to address identified gaps and needs in its workforce and identified actions that build organizational capability to support those strategies. FPS also designed and plans to implement a staffing model—which identifies the federal workforce necessary to meet its mission—consistent with most key practices we identified. However, FPS has not fully developed performance measures to evaluate progress toward goals, which is also a key strategic workforce planning principle. For example, FPS has not identified performance measures for all of the Plan's strategies, nor has it included performance targets. Additionally, FPS has made consistent progress in its efforts to conduct facility security assessments that are consistent with ISC standards. Specifically, in March 2012, FPS developed the Modified Infrastructure Survey Tool (MIST) to assess the vulnerabilities of federal facilities. In October 2016, FPS officials stated that FPS inspectors are currently using MIST augmented with external threat and consequence data to provide a more complete assessment for federal facilities than can be achieved by using MIST alone. As of October 2016, FPS had also developed a Mission Needs Assessment that outlines how FPS will enhance its ability to assess risks to federal facilities by incorporating threat, vulnerability, and consequence information in a single, integrated, and automated tool. FPS officials said that this new tool could improve

FPS's ability to better protect federal facilities and help minimize agencies' duplicative risk assessment activities.

Action Plan

FPS has shown improvement since our last high-risk update and partially met this criterion by developing action plans that should improve the physical security of federal facilities. We recommended, in December 2015, that FPS and GSA—two agencies that share responsibility for protecting federal facilities—take actions to improve their collaboration and finalize the two agencies' memorandum of agreement (MOA) accordingly.[13] As of August 2016, FPS reported that it has taken steps with GSA to resolve differences in agency opinions on security-related authorities for protecting federal real property. FPS also stated that once an agreement or an updated MOA has been established, both agencies would be better positioned to devise a plan with time frames for finalizing a joint strategy. However, progress toward an agreement is slow; the MOA has not been updated since 2006. Further, in September 2011, we recommended that FPS and DOJ work with other agencies to improve collaboration to address a number of courthouse security challenges.[14] USMS and FPS formed a working group in 2015 to assess the costs and benefits of a pilot program that would enhance security. However, as of January 2017, FPS, USMS, the Administrative Office of the U.S. Courts, and GSA were still working to finalize the draft MOA on courthouse security.

Monitoring

The federal government has shown improvement since our last high-risk update and partially met the criterion for monitoring progress in securing our nation's federal facilities. For example, we reported, in March 2015, that action is needed to better assess cost-effectiveness of security enhancements at federal facilities.[15] In December 2015, ISC implemented our recommendation that they help federal agencies implement the cost-

[13]GAO, *Homeland Security: FPS and GSA Should Strengthen Collaboration to Enhance Facility Security,* GAO-16-135 (Washington, D.C.: Dec. 16, 2015).

[14]GAO, *Federal Courthouses: Improved Collaboration Needed to Meet Demands of a Complex Security Environment*, GAO-11-857 (Washington, D.C.: Sept. 28, 2011).

[15]GAO, *Homeland Security: Action Needed to Better Assess Cost-Effectiveness of Security Enhancements at Federal Facilities,* GAO-15-444 (Washington, D.C.: Mar. 24, 2015).

effectiveness and performance measurements by amending the federal government's risk management standard and published new guidance intended to help federal entities make the most effective use of resources available for physical security across their facilities. As a result, federal entities will be able to better determine the benefits of security investments and assess whether they have reduced federal facilities' vulnerability to threats, including acts of terrorism or other forms of violence. With regard to FPS guard training, further action is required to monitor progress. FPS relies on 13,500 privately contracted guards to provide security to federal facilities under the custody and control of GSA. We recommended in September 2013 that FPS immediately determine which guards have not had screener (x-ray and magnetometer equipment) or active-shooter scenario training and ensure the training has been provided to them.[16] FPS has taken some steps to build a monitoring and tracking system to identify guards who completed training but has not yet completed and implemented the tracking system. In addition, we reported in January 2017 that GSA is leasing from foreign owners about 3.3 million square feet in 20 buildings that require higher levels of security.[17] Most of the tenant agencies we contacted were unaware that the space they occupy is in a foreign-owned building. Federal officials who assess foreign investments and some tenant agencies said that leasing space in foreign-owned buildings could present security risks, such as espionage and unauthorized cyber and physical access. We recommended that GSA identify foreign owners of high security space and inform the tenant agencies for any needed security mitigation. GSA agreed with the recommendations.

Demonstrated Progress

Although FPS and other agencies have improved some areas of physical security, they have not yet met the criterion for demonstrated progress. To do so, FPS and USMS should continue work they have under way to implement our March 2015 recommendation related to security screening at federal buildings and courthouses. More specifically, we recommended that (1) FPS develop and implement a strategy for using covert-testing data and data on prohibited items to improve FPS's security-screening efforts and (2) USMS develop and implement a strategy for using

[16]GAO, *Federal Protective Service: Challenges with Oversight of Contract Guard Program Still Exist, and Additional Management Controls are Needed,* GAO-13-694 (Washington, D.C.: Sept. 17, 2013).

[17]GAO-17-195.

intrusion-testing data and data on prohibited items to improve security screening at federal courthouses held by GSA.[18] Further, FPS must fully implement our September 2013 recommendations to ensure that its guards have met training and certification requirements and that contract guard companies' instructors be certified to teach basic and refresher training courses to guards.[19] As previously described, developing a tracking system that monitors guards' training would also improve the way FPS oversees its contract guard program, which is central to effectively protecting employees and visitors in federal facilities.

Benefits Achieved by Implementing Our Recommendations

- In July 2011, we recommended that FPS establish a process for verifying the accuracy of federal facility and guard training and certification data before entering them into the guard database. FPS developed and implemented procedures in 2014 to verify the accuracy of that data before entering it into its interim contract guard database. This step will help FPS in its continued efforts to verify the accuracy of federal facility and contract guard data.
- In June 2012, we recommended that OMB, in collaboration with Federal Real Property Council member agencies, develop and publish a national strategy for managing federal excess and underutilized real property. In the spring of 2015, OMB issued the National Strategy. By issuing the National Strategy, the federal government has taken a major step forward to increase the efficiency of federal real property management and address long-standing real property challenges.
- In March 2015, we recommended that the Secretary of Homeland Security direct ISC to develop guidance for helping federal entities meet the cost-effectiveness and performance measurement aspects of ISC's risk management standard. In December 2015, ISC published new guidance that provides entities with an introduction and understanding of the most efficient processes and procedures to effectively allocate physical security resources across an entities' portfolio of facilities, including discussions on how to determine cost-effectiveness and implement performance measures. As a result,

[18]GAO, *Homeland Security: Actions Needed to Better Manage Security Screenings at Federal Buildings and Courthouses,* GAO-15-445 (Washington, D.C.: Mar. 31, 2015).

[19]GAO-13-694.

federal entities will be able to better determine the benefits of security investments and whether they have reduced federal facilities' vulnerability to acts of terrorism or other forms of violence.

- In August 2012, we recommended that DHS direct FPS to coordinate with GSA and other federal tenant agencies to reduce any unnecessary duplication in security assessments of facilities under the custody and control of GSA. In 2016, we determined that FPS had taken steps to coordinate with these agencies. For example, in 2014, FPS surveyed GSA and other federal agencies to determine why they were conducting their own risk assessments, among other things. As a result of both coordinating with and surveying GSA as well as other federal agencies, FPS has reduced or prevented the duplication of effort associated with its risk assessments.

GAO Contact

For additional information about this high-risk area, contact the following people. On real property management, contact Dave Wise at (202)512-2834 or wised@gao.gov. On issues related to physical security of federal facilities, contact Lori Rectanus at (202) 512-2834 or rectanusl@gao.gov.

Related GAO Products

Federal Real Property: GSA Should Inform Tenant Agencies When Leasing High-Security Space from Foreign Owners. GAO-17-195. Washington, D.C.: January 3, 2017.

Federal Real Property: Efforts Made, but Challenges Remain in Reducing Unneeded Facilities. GAO-16-869T. Washington, D.C.: September 23, 2016.

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Homeland Security: Actions Needed to Better Manage Security Screening at Federal Buildings and Courthouses. GAO-15-445. Washington, D.C.: March 31, 2015.

Homeland Security: Action Needed to Better Assess Cost-Effectiveness of Security Enhancements at Federal Facilities. GAO-15-444. Washington, D.C.: March 24, 2015.

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Federal Protective Service: Actions Needed to Assess Risk and Better Manage Contract Guards at Federal Facilities. GAO-12-739. Washington, D.C.: August 10, 2012.

Federal Buildings Fund: Improved Transparency and Long-term Plan Needed to Clarify Capital Funding Priorities. GAO-12-646. Washington, D.C.: July 12, 2012.

Federal Real Property: National Strategy and Better Data Needed to Improve Management of Excess and Underutilized Property. GAO-12-645. Washington, D.C.: June 20, 2012.

Federal Courthouses: Improved Collaboration Needed to Meet Demands of a Complex Security Environment. GAO-11-857. Washington, D.C.: September 28, 2011.

Funding the Nation's Surface Transportation System

Why Area Is High Risk

The nation's surface transportation system—including highways, transit, maritime ports, and rail systems that move both people and freight—is critical to the economy and affects the daily lives of most Americans. However, the system is under growing strain, and the cost to repair and upgrade the system to meet current and future demands is estimated in the hundreds of billions of dollars. The oldest portions of the Interstate Highway System are approaching 60 years of age, and 10 percent of the nation's bridges were rated as structurally deficient in 2015. While this percentage of bridges rated as structurally deficient improved from 13 percent in 2006, bridge conditions may become more challenging to address as a growing proportion approach the end of their 50-year design life.

Challenges to the nation's surface transportation system are amplified by shifting demographics, the need to transport the goods and services to support a growing economy, rapid development of new technologies, and other factors. The U.S. population is expected to increase by 70 million over the next 30 years. As the Department of Transportation (DOT) has reported, this projected increase includes a growing percentage of Americans over the age of 65 with limited ability to drive or use transit to access critical services, and millennials, many of whom drive less than previous generations and choose to live in urban areas where they can walk, bike, or use public transportation. Though employment options in suburban areas are increasing, poverty is also increasing in such areas. Collectively, these changes will complicate future infrastructure planning decisions.

These trends are altering transportation investment decision making. The amount of freight moving through the country is expected to grow, a factor that will place strain on existing freight bottlenecks. Rapidly evolving vehicle technologies present new opportunities, but also pose challenges to creating a statutory and regulatory framework that will allow people to use these technologies while addressing privacy and other concerns they raise. Climate change also poses risks to existing transportation assets

and presents opportunities and challenges to enhance resilience and reduce potential future losses, rather than simply pursuing a reactive approach of funding after a disaster occurs.

These challenges to the nation's surface transportation system come at a time when traditional funding sources are eroding, and the federal government lacks a long-term sustainable strategy for funding surface transportation, as discussed below. Funding the nation's surface transportation system is further complicated by the federal government's financial condition and fiscal outlook. Funding the nation's surface transportation system has been on GAO's High-Risk List since 2007.

What GAO Found

Source: GAO analysis. | 2017 High Risk List GAO-17-317

There is no rating for this high-risk area because addressing it primarily involves congressional action and the high-risk criteria and subsequent ratings were developed to reflect the status of agencies' actions and the additional steps they need to take.

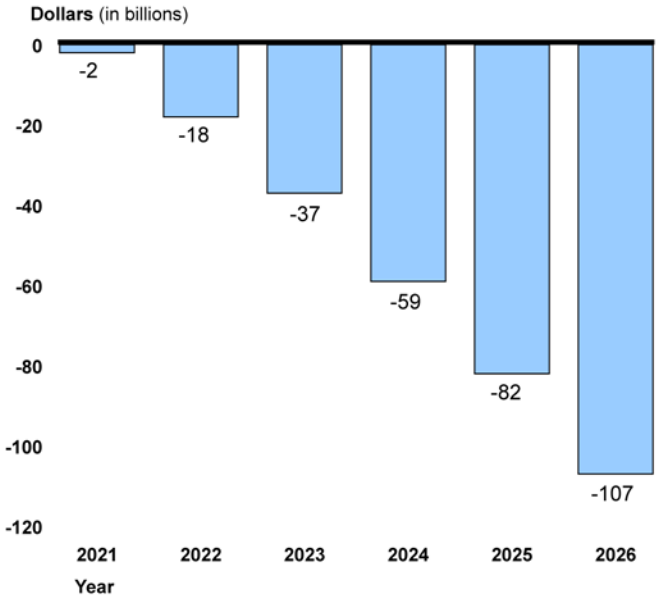
Motor fuel taxes and additional truck-related taxes that support the Highway Trust Fund—the major source of federal surface transportation funding—are eroding. Federal motor fuel tax rates have not increased since 1993, and drivers of passenger vehicles with average fuel efficiency currently pay about $96 per year in federal gasoline taxes. Because of inflation, the 18.4 cent-per-gallon tax on gasoline enacted in 1993 is worth about 11 cents today. The tax base will likely continue to erode as

demand for gasoline decreases with the introduction and adoption of more fuel-efficient and alternative fuel vehicles. To maintain spending levels of about $45-50 billion a year for highway and transit programs and to cover revenue shortfalls, Congress transferred a total of about $141 billion in general revenues to the Highway Trust Fund on eight occasions from 2008 through 2015.[1] This funding approach has effectively ended the long-standing principle of "users pay" in highway finance, breaking the link between the taxes paid and the benefits received by highway users.

The most recent surface transportation reauthorization measure, enacted in December 2015 and which authorized funding through 2020, was the Fixing America's Surface Transportation (FAST) Act. In addition to funds authorized from the Highway Trust Fund, the FAST Act provided around $70 billion of the $141 billion in transfers from general revenues. The general revenues provided in the FAST Act represented a one-time transfer of funding, not a sustainable long-term source of revenues. After 2020, the gap between projected revenues and spending will recur. In March 2016, the Congressional Budget Office estimated that $107 billion in additional funding would be required to maintain current spending levels plus inflation from 2021 through 2026, as shown in figure 9.

[1]The transfers from the General Fund of the U.S. Treasury were subject to sequestration, which resulted in somewhat lower dollar amounts transferred into the Highway Trust Fund.

Figure 9: Projected Cumulative Highway Trust Fund Balance, Fiscal Years 2021 through 2026



Source: GAO analysis of Congressional Budget Office data. | GAO-17-317

Note: This projection assumes no further augmentation of highway-related taxes to the Highway Trust Fund after 2021 from general revenues or other sources. By law, the Highway Trust Fund cannot incur negative balances.

What Remains to Be Done

Congress and the administration need to agree on a long-term plan for funding surface transportation. Continuing to augment the Highway Trust Fund with general revenues may not be sustainable, given competing demands and the federal government's fiscal challenges. A sustainable solution would balance revenues to and spending from the Highway Trust Fund. New revenues from users can come only from taxes and fees; ultimately, major changes in transportation spending or in revenues, or in both, will be needed to bring the two into balance.

A long-term sustainable plan for funding surface transportation requires congressional action and remains the pivotal action that will determine whether the funding of surface transportation remains on, or is removed from, our High-Risk List. DOT will also need to continue implementing the performance-based approach to surface transportation mandated in the Moving Ahead for Progress in the 21st Century Act (MAP-21) and discussed below. It will become increasingly important to improve the

effectiveness of surface transportation programs by establishing links to performance, measuring progress toward clear national goals, and enhancing the management of discretionary grant programs. These actions are essential to maximizing the use of available resources.

Additional Details on What GAO Found

The challenge of funding the nation's surface transportation system is magnified by the fact that spending for surface transportation programs has not commensurately improved system performance. Many programs have not effectively addressed key challenges—such as deteriorating infrastructure conditions and increasing congestion and freight demand—because federal goals and roles have been unclear, programs have lacked links to performance, and programs have not used the best tools and approaches to ensure effective investment decisions. Beginning in 2008, we recommended that Congress consider a fundamental reexamination of these programs to clarify federal goals and roles, establish performance links, and improve investment decision making. More recently, we found that it can be difficult to determine the extent to which federal funding has improved system performance. Specifically, in 2016, we found that while the Federal Highway Administration (FHWA) collects and maintains data on both federal funding for bridge projects and bridge conditions, it lacks a means of demonstrating the link between such funding and changes in bridge conditions. We recommended that the FHWA Administrator develop an efficiency measure to demonstrate the link between funding and bridge infrastructure outcomes, and report that information to Congress. DOT concurred with our recommendation and we are awaiting information on what steps DOT plans to take to implement it.

Congress passed provisions in MAP-21 in 2012 to help address the key challenges we identified in 2008. Among other things, the act included provisions to move toward a more performance-based highway and transit program. Specifically, MAP-21 established national performance goals in areas such as infrastructure condition, safety, and system performance; MAP-21 also outlined a three-stage process in which (1) DOT establishes performance measures for these national goals, (2) states and other grantees set targets based on these performance measures and report annually on their progress, and (3) DOT evaluates whether grantees have met their targets and reports to Congress.

DOT is in the process of implementing MAP-21's performance management approach through rulemaking. In January 2017, DOT finalized the last of seven interrelated rules that will, among other things, establish the performance measures that states will be required to set targets for and report progress on in the areas of safety, pavement and bridge conditions, and system performance. For example, the System Performance Measure rule includes measures for freight movement, traffic congestion, and air quality and received over 8,800 public comments. MAP-21 also required states to report on their progress in implementing the transportation performance management requirements to DOT by October 2016 and required DOT to report to Congress on progress made by October 2017. Because several of the final rules were recently issued, it is too early for states to report on progress, and thus DOT provided guidance to states, requesting that they instead report on their general performance management activities. We plan to report on DOT and state progress and anticipated challenges implementing the new national transportation performance management framework in the summer of 2017.

Congress and DOT have also taken steps to more strategically address freight congestion, though many of DOT's actions are in the early stages. For example, MAP-21 established national goals and directed the Secretary of Transportation to establish a national freight network, develop a strategic freight plan, and provide the tools necessary to support a performance-based approach for evaluating and selecting new freight projects. The 2015 FAST Act made some changes to, and built upon, some of MAP-21's freight provisions. Specifically, it extended the deadline for DOT to finalize the National Freight Strategic plan from October 2015 to December 2017. The public comment period for the draft plan closed on April 2016 and, according to DOT, it is on track to finalize the plan by the new deadline. The FAST Act also directed DOT to establish for the first time a National Multimodal Freight Network and also a National Highway Freight Network.

The National Highway Freight Network is to be used to strategically direct federal resources and policies toward improved performance of highway portions of the U.S. freight transportation system. Finally, the FAST Act established a competitive grant program to fund freight and highway projects of regional or national importance. In 2016, DOT awarded approximately $760 million for the Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies (FASTLANE) grant program to 18 freight projects.

We have reported that the historic approach to funding surface transportation, in particular highways, poses challenges to incorporating performance and accountability for results into transportation funding decisions. This situation exists because funding has been principally provided through formulas designed to yield a largely predetermined outcome—that of returning revenues to their attributed state of origin. For three highway programs designed to meet national and regional transportation priorities, we recommended that Congress consider a competitive, criteria-based process for distributing federal funds. The FAST Act authorized about a dozen new discretionary grant programs, some of which DOT is already implementing, including the FASTLANE program. While over 90 percent of funds will continue to be distributed by formula, the FAST Act represents a promising development to address national and regional transportation priorities.

Nevertheless, we have found challenges with DOT's implementation of discretionary grant programs, including problems documenting key evaluation and project selection decisions. For example, in May 2014, we found that DOT did not document key decisions—such as accepting and reviewing project applications received after the published deadline, or changes to projects' technical ratings— and deviated from established procedures and recognized internal control practices in awarding Transportation Investment Generating Economic Recovery (TIGER) discretionary grants. We recommended that the Secretary of Transportation establish additional accountability measures by, among other things, issuing a decision memorandum or similar mechanism to document and approve major decisions in the application evaluation and project-selection process. DOT generally agreed with, but has not fully implemented, this recommendation.

In addition, in December 2016, we found that the Federal Transit Administration (FTA) did not document key decisions in awarding $3.6 billion in discretionary, competitive grants for projects to increase the resilience of transit systems to withstand future disasters in areas affected by Hurricane Sandy. For example, FTA did not document how it addressed reviewers' concerns that some of the proposed—and ultimately funded—projects were outside the scope of the grant program. We also found that because FTA did not incorporate information collected from applicants and reviewers into its selection process, it may have funded projects that may no longer be needed if other resilience projects in the same region are implemented. We recommended that FTA examine its funded projects for potential duplication with other resilience efforts and determine if realigning or rescinding those funds is

appropriate. DOT concurred with our recommendation and we are awaiting information on what steps DOT plans to take to implement it.

Given the continuing challenges we found with DOT discretionary grant programs, and the number of new programs authorized by the FAST Act, we recommended in December 2016 that the Secretary of Transportation issue a directive governing department-wide and modal administration discretionary grant programs. Such a directive should include requirements to, among other things, (1) develop an up-front plan for evaluating project proposals to ensure DOT reviews applications consistently; and (2) document key decisions, including the reason for any rating changes, as well as how high-level concerns raised during the process were addressed. Developing such a directive would help to ensure the integrity of future DOT discretionary grant programs. DOT concurred with our recommendation and we are awaiting information on what steps DOT plans to take to implement it.

GAO Contact

For additional information about this high-risk area, contact Susan Fleming at (202) 512-2834 or FlemingS@gao.gov.

Related GAO Products

DOT Discretionary Grants: Problems with Hurricane Sandy Transit Grant Selection Process Highlight the Need for Additional Accountability. GAO-17-20. Washington, D.C.: December 14, 2016.

West Coast Ports: Better Supply Chain Information Could Improve DOT's Freight Efforts. GAO-17-23. Washington, D.C.: October 31, 2016.

Highway Bridges: Linking Funding to Conditions May Help Demonstrate Impact of Federal Investment. GAO-16-779. Washington, D.C.: September 14, 2016.

U.S. Border Communities: Ongoing DOT Efforts Could Help Address Impacts of International Freight Rail. GAO-16-274. Washington, D.C.: January 28, 2016.

Surface Transportation: DOT Is Progressing Toward a Performance-Based Approach, but States and Grantees Report Potential

Implementation Challenges. GAO-15-217. Washington, D.C.: January 16, 2015.

Surface Transportation: Department of Transportation Should Measure the Overall Performance and Outcomes of the TIGER Discretionary Grant Program. GAO-14-766. Washington, D.C.: September 23, 2014.

Freight Transportation: Developing National Strategy Would Benefit from Added Focus on Community Congestion Impacts. GAO-14-740. Washington, D.C.: September 19, 2014.

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Highway Trust Fund: Pilot Program Could Help Determine the Viability of Mileage Fees for Certain Vehicles. GAO-13-77. Washington, D.C.: December 13, 2012.

Highway Trust Fund: All States Received More Funding Than They Contributed in Highway Taxes from 2005 to 2009. GAO-11-918. Washington, D.C.: September 8, 2011.

Surface Transportation: Clear Federal Role and Criteria-Based Selection Process Could Improve Three National and Regional Infrastructure Programs. GAO-09-219. Washington, D.C.: February 6, 2009.

Surface Transportation: Restructured Federal Approach Needed for More Focused, Performance-Based, and Sustainable Programs. GAO-08-400. Washington, D.C.: March 6, 2008.

Modernizing the U.S. Financial Regulatory System and the Federal Role in Housing Finance

Why Area Is High Risk

Congress and financial regulators have made progress in meeting criteria for removing the issue area of reforming the U.S. financial regulatory system from our High-Risk List. However, definitive steps have yet to be taken to address the federal government's role in housing finance. As the worst financial crisis in more than 75 years unfolded, unprecedented federal support was provided to many firms, including Fannie Mae and Freddie Mac, two large, housing-related government-sponsored enterprises (the enterprises). Many households suffered as a result of falling asset prices, tightening credit, and increasing unemployment. These events clearly demonstrated that the U.S. financial regulatory system had failed to respond effectively to developments in the markets and to the increase in systemic risks that contributed to the crisis.[1] Given the challenges that regulators would face in identifying and implementing changes to reduce the potential for such events to occur again, we designated reform of the financial regulatory system as a high-risk area in 2009.[2]

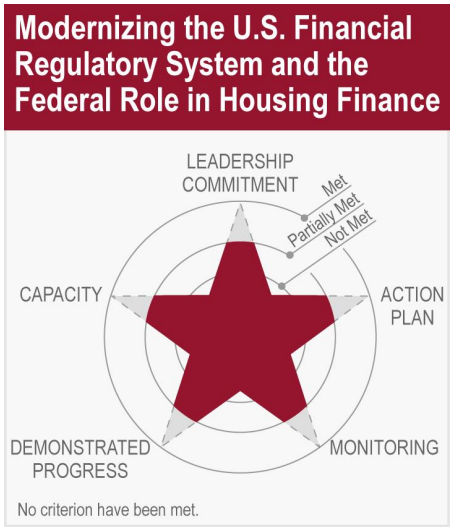
According to data from Inside Mortgage Finance, the federal government has directly or indirectly supported more than two-thirds of the value of new mortgage originations in the single-family housing market in the years since the crisis began. Mortgages with federal support include those backed by the enterprises, which the Federal Housing Finance Agency (FHFA) placed under government conservatorship in 2008, and

[1]GAO, *Financial Regulation: A Framework for Crafting and Assessing Proposals to Modernize the Outdated U.S. Financial Regulatory System*, GAO-09-216 (Washington, D.C.: Jan. 8, 2009).

[2]GAO, *High-Risk Series: An Update*, GAO-09-271 (Washington, D.C.: January 2009).

whose future role in the housing finance system has yet to be determined. The federal government also supports mortgages through insurance or guarantee programs, the largest of which is administered by the Department of Housing and Urban Development's (HUD) Federal Housing Administration (FHA).[3] During the financial crisis, FHA served its traditional role of helping to stabilize the housing market, but also experienced financial difficulties from which it only recently recovered. Until decisions are made about what role the federal government will play in housing finance, housing and mortgage markets continue to pose increased risks to taxpayers and the U.S. financial system. In light of developments at the enterprises and FHA, we added this issue to the scope of this high-risk area in 2013.[4]

What GAO Found



Source: GAO analysis. | 2017 High Risk List GAO-17-317

Congress and financial regulators have made progress in meeting criteria for removing the issue area of reforming the U.S. financial regulatory system from our High-Risk List, but additional steps are needed to improve the structure of the financial regulatory system and the implementation of some reforms. Demonstrating leadership commitment

[3]The Department of Veterans Affairs and the Department of Agriculture's Rural Housing Service also administer mortgage guarantee programs.

[4]GAO, *High-Risk Series: An Update*, GAO-13-283 (Washington, D.C.: February 2013).

and capacity, Congress enacted sweeping reforms in 2010 through the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) and regulators have worked to implement the act's numerous reforms. Continued leadership commitment from financial regulators and Congress will be needed to fully implement the reforms and additional work will be needed to exhibit capacity to complete oversight and monitoring plans, monitor progress, and demonstrate the effectiveness of the new oversight bodies and regulations.

Policymakers have made proposals to overhaul the federal role in the housing finance system, but additional leadership commitment will be needed to reach consensus and enact changes to the system. The ongoing federal conservatorship of the enterprises and FHA's need for supplemental funds in 2013 underscore the need to reconsider the federal role. Federal agencies have taken some steps to develop plans, build capacity, and provide monitoring mechanisms that could help build a more robust housing finance system. However, progress toward resolving the federal role within that system will be difficult to achieve without an overall blueprint for change.

In the decades leading up to the recent crisis, the U.S. financial regulatory system failed to adapt to significant changes. First, although the U.S. financial system increasingly had become dominated by large, interconnected financial conglomerates, no single regulator was tasked with monitoring and assessing the risks that these firms' activities posed across the entire financial system. Second, entities—such as nonbank mortgage lenders, hedge funds, and credit rating agencies—that had come to play critical roles in the financial markets were not subject to sufficiently comprehensive regulation and oversight. Third, the regulatory system was not effectively providing key information and protections for new and more complex financial products for consumers and investors. Taking steps to better position regulators to oversee firms and products that pose risks to the financial system and consumers, and to adapt to new products and participants as they arise, could reduce the likelihood that the financial markets will experience another financial crisis similar to the one in 2007–2009.

Losses from risky mortgage products also resulted in the enterprises being placed into federal conservatorship in 2008, creating an explicit fiscal exposure for the federal government. The enterprises received more than $187 billion in financial assistance from the Department of the Treasury (Treasury) through purchases of senior preferred stock, but have paid more than $250 billion in dividends to Treasury under the stock

purchase agreements. Distressed housing and mortgage markets also expanded FHA's role in the mortgage market, while leading to deterioration in the agency's financial condition from which it has taken years to recover. In 2015, mortgages directly or indirectly supported by the federal government accounted for more than 70 percent of the dollar value of new single-family mortgage originations, according to data from Inside Mortgage Finance.

Although more needs to be done to address this high-risk issue, there have been several benefits achieved by implementing our recommendations.

- In a March 2016, we reported that Treasury had not instituted a system to review the extent to which it would use the available program balance for the Making Home Affordable (MHA) program. Consistent with our recommendations, Treasury updated estimates of future MHA program expenditures, deobligated $2 billion from the MHA program, and announced a $2 billion increase in funding for the Hardest Hit Fund.
- In June 2013, we made recommendations intended to increase FHA's returns on sales of foreclosed properties with FHA-insured mortgages. FHA's actions in response to our recommendations improved its returns and led to financial benefits totaling more than $3.4 billion in fiscal years 2013–2016.
- In June 2012, we recommended that Treasury and FHA update their estimates of program participation and use the updated estimates to reassess the terms the $8 billion letter of credit facility for FHA's Refinance for Borrowers in Negative Equity Positions program. As a result, Treasury amended the purchase agreement and deobligated approximately $7.1 billion dollars, which was returned to the general fund in fiscal year 2013.
- In November 2005, we recommended that FHA take a number of steps to mitigate the risks associated with mortgages with down payment assistance from nonprofit organizations funded by property sellers. Citing our work, Congress prohibited seller-funded down-payment assistance, effective October 1, 2008. In fiscal year 2013, the financial benefit to the federal government of not insuring such loans was approximately $2.5 billion.

What Remains to Be Done

Actions Needed to Complete and Ensure the Effective Functioning of Reforms to the U.S. Financial Regulatory System

Continued leadership commitment is needed to ensure that financial regulations foster stable, competitive and well-functioning markets. Our review of selected major rules—that is, those likely to result in an annual impact on the economy of $100 million or more, among other things—found that regulators generally quantified some of the costs but not always the benefits of each rule, noting data and other limitations. Although the federal financial regulators—as independent agencies—are not subject to executive orders requiring detailed cost-benefit analysis in accordance with Office of Management and Budget (OMB) guidance, we have recommended that the regulators more fully incorporate OMB's regulatory guidance into their written rulemaking policies. However, not all regulators have implemented this recommendation. The Administration and members of Congress have expressed intentions to reduce financial regulatory burdens. Such actions would be most effective if they largely preserve the benefits sought by the regulations while allowing institutions to comply with the requirements in less costly ways.

The full impact of the Dodd-Frank Act remains uncertain because some of its rules have not been finalized and insufficient time has passed to evaluate others. For example, the Dodd-Frank Act prohibits insured depository institutions and any company affiliated with an insured depository institution from engaging in proprietary trading and from acquiring or retaining ownership interests in, sponsoring, or having certain relationships with a hedge fund or private equity fund. Banks were initially expected to have implemented these restrictions by July 2014, but the Federal Reserve twice extended the conformance date, with affected entities now required to conform by July 2017. Similarly, the higher capital requirements that regulators adopted for banks in October 2013 have some provisions that will not be fully effective until January 2019.

Additional leadership from Congress is also needed to improve the inefficiencies that hamper the current financial regulatory system. Although the Dodd-Frank Act implemented a number of key reforms intended to address significant weaknesses and gaps in the regulatory system, the U.S. financial regulatory structure remains complex, with

responsibilities fragmented among a number of regulators that have overlapping authorities. We have noted that this fragmentation, overlap, and duplication introduce significant challenges for efficient and effective oversight of financial institutions and activities.

The framework we developed in 2009 for evaluating regulatory reform proposals noted that an effective regulatory system would address certain structural shortcomings created by fragmentation and overlap. To help achieve this, we have suggested that Congress consider whether additional changes to the financial regulatory structure are needed to reduce or better manage fragmentation and overlap in the oversight of financial institutions and activities to improve the efficiency and effectiveness of oversight. For example, Congress could consider consolidating the number of federal agencies involved in overseeing the safety and soundness of depository institutions, combining the entities involved in overseeing the securities and derivatives markets, transferring the remaining prudential regulators' consumer protection authorities over large depository institutions to the Consumer Financial Protection Bureau (CFPB), and determining the optimal federal role in insurance regulation.

Congressional leadership also could improve the ability of the U.S. regulatory system to address systemic risks. Although the Financial Stability Oversight Council (FSOC) represents advancement in addressing systemic risk threats to the U.S. financial system, its legal authorities may not be broad enough to ensure that it can address all threats effectively. Under the Dodd-Frank Act, FSOC can respond to certain potential systemic risks primarily through its authority to designate certain entities or activities that pose a threat to financial stability for enhanced supervision by a specific federal regulator. We reported in February 2016 that FSOC's designation authorities, by statute, cannot be used to address certain types of risks, such as specific industry-wide activities involving nonbank financial institutions, and the full scope of FSOC's designation authority remains untested and unclear to date.

FSOC has other nondesignation authorities that allow it to recommend that individual regulators address specific risks, but these recommendations are nonbinding. As a result, we suggested that Congress consider whether legislative changes would be necessary to align FSOC's authorities with its mission to respond to systemic risks. Such actions could include changes to FSOC's mission, its authorities, or both, or to the missions and authorities of one or more of the FSOC member agencies to support a stronger link between its responsibility and capacity to respond to systemic risks.

Additional leadership, planning, capacity, and monitoring activities by U.S. financial regulators also could improve systemic risk oversight. While the newly created systemic risk and financial research bodies have been established, we have continued to identify additional steps they need to take to fully meet their envisioned missions. The Dodd-Frank Act maintained the independence of the system's multiple regulators but created FSOC to identify and respond to systemic risks. We noted in February 2016 that this approach to systemic risk oversight requires consistent and highly effective interagency collaboration and the use of good quantitative and qualitative information. However, we reported then that FSOC's Systemic Risk Committee is not fully and consistently informed by the Office of Financial Research (OFR) and the Federal Reserve's monitoring tools or other outputs, and we recommended this be done.

In addition, we found that both OFR and the Federal Reserve conduct broad-based systemic risk monitoring activities that aim to identify threats across the financial system and recommended that the two agencies jointly articulate individual and common goals for their systemic risk monitoring activities, including a plan to monitor progress toward articulated goals, and formalize regular strategic and technical discussions around their activities and outputs to support those goals. Such efforts could help ensure that FSOC more accurately measures the effect of significant Dodd-Frank Act regulations but also more efficiently coordinates with its members to leverage retrospective reviews.

In our priority recommendations letter to Treasury, we identified some actions that could be taken to improve regulators' ability to oversee systemic risks. First, we noted that FSOC and OFR need to clarify responsibility for implementing requirements to monitor threats to financial stability across FSOC and OFR, including FSOC members and member agencies, to better ensure that the monitoring and analysis of the financial system are comprehensive and not unnecessarily duplicative.[5] In addition, to improve the data that council members need to conduct their responsibilities, FSOC should direct OFR to work with its members to identify and collect the data necessary to assess the effect of the Dodd-

[5]GAO, *Financial Stability: New Council and Research Office Should Strengthen the Accountability and Transparency of Their Decisions*, GAO-12-886 (Washington, D.C: Sept. 11, 2012).

Frank Act regulations on, among other things, the stability, efficiency, and competitiveness of the U.S. financial markets.[6]

Financial regulators need to demonstrate further progress by taking additional actions. Although FSOC's ability to identify firms whose financial difficulties could pose threats to the overall financial system is an important oversight tool, we reported in November 2014 that the transparency of its process for designating systemically important nonbank entities could be improved.[7] Designating these entities in a way that supports public and market confidence could help mitigate the potential for such entities to endanger the stability of the U.S. financial system. Thus, we recommended that FSOC take various steps to improve the tracking of its process and disclose the rationales for its designations in greater detail. Since then, FSOC has issued supplemental procedures for nonbank financial company designations that stated its commitment to continuing to provide the public with an understanding of the council's analysis and a subsequent designation document included additional information compared to prior ones. However, that document did not fully explain how FSOC concluded that a company's characteristics were sufficiently large or significant enough, or had other attributes, to meet a determination standard.

Demonstrated progress is needed to ensure the effectiveness of reforms addressing the resolution of troubled firms. Although regulators have made progress conducting their reviews of the resolution plans of large financial institutions, the time they took to complete these reviews and provide feedback did not provide some companies with sufficient time to fully incorporate changes into subsequent plans. As a result, we recommended that the Federal Reserve and Federal Deposit Insurance Corporation address these weaknesses. In addition, we recommended in 2016 numerous steps the Federal Reserve could take to improve the stress tests that assess how large financial institutions would be affected by changes in economic or other conditions.

Additional progress is needed to address other risks. Although the Federal Reserve has worked with the two clearing banks for the repurchase (repo) market to reduce their problematic credit exposures, the FSOC 2015 annual report notes that the risk of fire sales of collateral

[6]GAO, *Dodd-Frank Act Regulations: Implementation Could Benefit from Additional Analyses and Coordination*, GAO-12-151 (Washington, D.C: Nov. 10, 2011).

[7]GAO-09-216.

by creditors of a defaulted broker-dealer remains an important financial stability concern. For instance, many of the creditors may themselves be vulnerable to runs in a stress event. As a result, the council expressed the need for market participants to continue to improve the settlement processes for these transactions.

Actions Needed to Resolve the Federal Role in Housing Finance

Resolving the role of the federal government in housing finance will require continued leadership commitment by Congress and the administration. Prolonged conservatorships and a change in leadership at FHFA could shift priorities for the conservatorships, which in turn could send mixed messages and create uncertainties for market participants and hinder the development of the broader secondary mortgage market. For this reason, we said in November 2016 that Congress should consider legislation establishing objectives for the future federal role in housing finance, including the structure of the enterprises, and a transition plan to a reformed housing finance system that enables the enterprises to exit conservatorship.[8]

Maintaining FHA's long-term financial health and defining its future role also will be critical to any effort to overhaul the housing finance system. We previously recommended that Congress or FHA specify the economic conditions that FHA's Mutual Mortgage Insurance (MMI) Fund would be expected to withstand without requiring supplemental funds.[9] As evidenced by the $1.68 billion FHA received in 2013, the 2 percent capital requirement for FHA's MMI Fund may not always be adequate to avoid the need for supplemental funds under severe stress scenarios. Implementing our recommendation would be an important step not only in addressing FHA's long-term financial viability, but also in clarifying FHA's role. FHA also will need to sustain the progress it made in strengthening the health of the MMI Fund and implementing sound risk-management practices. Furthermore, it will be important for FHA and other agencies with housing finance-related responsibilities to fully implement our recommendations on evaluating the effectiveness of foreclosure

[8]GAO, *Federal Housing Finance Agency: Objectives Needed for the Future of Fannie Mae and Freddie Mac After Conservatorships*, GAO-17-92 (Washington, D.C.: Nov. 17, 2016).

[9]GAO, *Mortgage Financing: FHA's Fund Has Grown, but Options for Drawing on the Fund Have Uncertain Outcomes,* GAO-01-460 (Washington, D.C.: Feb. 28, 2001).

mitigation actions, opportunities for consolidating similar housing programs, and the effect of recent mortgage market regulations.[10]

Due to the interconnected nature of the housing finance system and the central role homeownership plays in the U.S. economy, changes will need to be carefully designed and implemented. In October 2014, we issued a framework consisting of nine elements that Congress and others can use as they consider changes to the housing finance system.[11] The framework has the following elements:

- clearly defined and prioritized goals for the housing finance system;
- policies and mechanisms that are aligned with goals and other economic policies;
- adherence to an appropriate financial regulatory framework;
- government entities with the capacity to manage risks;
- protections for mortgage borrowers and actions to address barriers to mortgage market access;
- protection for mortgage securities investors;
- consideration of the cyclical nature of housing finance and the effect of housing finance on financial stability;
- recognition and control of fiscal exposure and mitigation of moral hazard; and
- emphasis on implications of the transition.

Each element in the framework is critically important in establishing the most effective and efficient housing finance system. Applying the elements of this framework would help policymakers identify the relative strengths and weaknesses of any proposals they consider. Similarly, the framework can be used to craft proposals or to identify changes to existing proposals to make them more effective and appropriate for addressing any limitations of the current system. However, any viable

[10]See GAO, *Mortgage Reforms: Actions Needed to Help Assess Effects of New Regulations,* GAO-15-185 (Washington, D.C.: June 25, 2015); *Housing Assistance: Opportunities Exist to Increase Collaboration and Consider Consolidation,* GAO-12-554 (Washington, D.C.: Aug. 16, 2012); and *Foreclosure Mitigation: Agencies Could Improve Effectiveness of Federal Efforts with Additional Data Collection and Analysis,* GAO-12-296 (Washington, D.C.: June 28, 2012).

[11]GAO, *Housing Finance System: A Framework for Assessing Potential Changes*, GAO-15-131 (Washington, D.C.: Oct. 7, 2014).

proposal for change must recognize that sometimes tradeoffs will exist among and within the nine elements. If Congress enacts changes to the housing finance system, relevant federal agencies will need to develop the capacity and action plans necessary to effectively implement the changes and monitor progress.

FHA needs to complete or build on steps it has taken in response to two priority recommendations that were not fully implemented as of October 2016. First, FHA has partially addressed recommendations from our June 2012 report on reducing losses from troubled mortgages, but needs to finish analyzing and reevaluating its loss mitigation approaches in order to optimize these efforts.[12] Second, FHA and other agencies that are part of a single-family housing task force need to evaluate and report on the opportunities for consolidating similar housing programs, as we recommended in an August 2012 report.[13]

Congressional Actions Needed

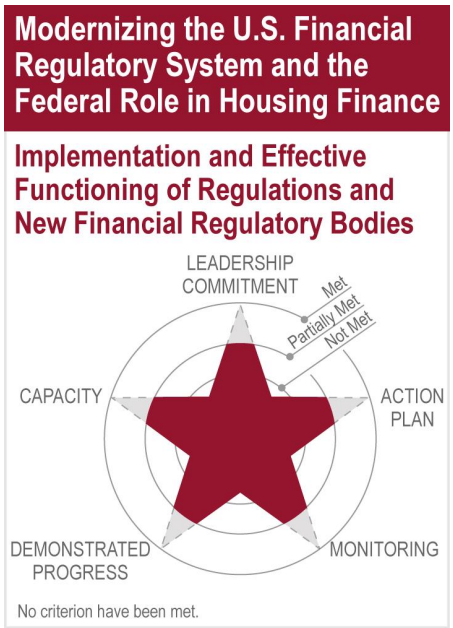
Additional congressional leadership is needed to address this high-risk area. Specifically, Congress should consider whether additional changes to the financial regulatory structure are needed to reduce or better manage fragmentation and overlap in the oversight of financial institutions and activities to improve (1) the efficiency and effectiveness of oversight; (2) the consistency of consumer and investor protections; and (3) the consistency of financial oversight for similar institutions, products, risks, and services. In addition, Congress could consider whether legislative changes would be necessary to align FSOC's authorities with its mission to respond to systemic risks. Such actions could include changes to FSOC's mission, its authorities, or both, or to the missions and authorities of one or more of the FSOC member agencies to support a stronger link between its responsibility and capacity to respond to systemic risks. Also, Congress should consider legislation establishing objectives for the future federal role in housing finance, including the structure of the enterprises, and a transition plan to a reformed housing finance system that enables the enterprises to exit conservatorship.

[12]GAO-12-296.

[13]GAO-12-554.

Additional Details on What GAO Found

Implementation and Effective Functioning of Regulations and New Financial Regulatory Bodies



Source: GAO analysis. | 2017 High Risk List GAO-17-317

Leadership Commitment

Policymakers and regulators have partially met the leadership criterion for removal from the High-Risk List. Since the crisis, policymakers and regulators showed leadership commitment by enacting and implementing the Dodd-Frank Act, which included reforms intended to better position the financial regulatory system to address many of the risks we identified. For example, the act created FSOC, which includes various financial regulators. FSOC's responsibilities include monitoring the stability of the U.S. financial system and acting to mitigate risks that might destabilize the system. In addition, the act consolidated responsibility for consumer financial protection laws into a new agency, CFPB. However, some reforms, including several rules addressing over-the-counter derivatives reforms, have yet to be fully implemented.

Additional leadership is needed from Congress to address the limitations that hamper the current financial regulatory structure. Although the Dodd-Frank Act made changes that were consistent with some of the characteristics we have identified for an effective financial regulatory framework, the existing regulatory structure does not always ensure (1) efficient and effective oversight, (2) consistent consumer protections, and (3) consistent financial oversight. As a result, negative effects of fragmented and overlapping authorities persist throughout the system. Without congressional action it is unlikely that remaining fragmentation and overlap in the U.S. financial regulatory system can be reduced or that policymakers and regulators can more effectively and efficiently oversee financial institutions. Members of Congress have also expressed concerns about the burdens that the new regulations may have created for financial institutions and have indicated plans to reduce these burdens.

Capacity

Regulators have partially met the capacity criterion for removal from the High-Risk List. Regulators have made considerable progress in finalizing the rulemakings necessary to implement the Dodd-Frank Act regulatory reforms. As of January 2017, regulators had issued final rules for 186 (79 percent) of the 236 provisions of the act that we identified as requiring rulemaking. For example, since we last reported on this high-risk issue, the Commodity Futures Trading Commission and the Securities and Exchange Commission largely finalized various rules required by the act that relate to trading swaps and other derivatives. CFPB also finalized amendments to a key rule—which became effective in October 2015—that provides consumers with an integrated disclosure of the key features, costs, and risks of their home mortgages at the time they apply. Previously we reported in January 2013 that delays in completing rules sometimes arose because the large volume of required rules strained regulators' capacities or because of the need to coordinate complicated rulemakings across multiple regulators or with international counterparts, but staff from the Securities and Exchange Commission and the Commodity Futures Trading Commission, which had reported experiencing difficulties due to resource constraints, told us that while

they continue to face such constraints they are taking steps to address their obligations to finalize the remaining rules.[14]

Action Plan

Regulators have made some progress in developing action plans for completing reforms and have partially met this criterion for removal from the High-Risk List. Since 2010, regulators have taken steps to prioritize rulemakings, including FSOC issuing an integrated implementation road map for required rules and publishing a consultation framework for guiding rulemaking coordination activities among agencies. FSOC's annual reports serve as the council's key accountability document, as each report discusses the progress regulators have made in implementing reforms, identifies newly emerging threats, and includes recommendations to address them. We also reported in February 2016 that the work of FSOC's Systemic Risk Committee has become better integrated into the council's annual reports.[15]

Monitoring

Regulators have made some progress in monitoring implementation progress and have partially met this criterion for removal from the High-Risk List. OFR conducts broad-based systemic risk monitoring efforts, including developing a quantitative systemic risk monitoring tool called the Financial Stability Monitor. We also reported in 2015 that federal banking regulators have taken steps to incorporate the lessons learned from the 2007-2009 financial crisis to improve their ability to identify and respond to emerging risks, including incorporating forward-looking elements, such as stress testing, into the examiners' considerations of risk in individual institutions.[16] In addition, the financial regulators have other monitoring tasks that are ongoing. Under various statutes, the financial regulators are to conduct analyses of the effect of their rules. We reported in December 2015 that the regulators are engaged in these retrospective

[14]GAO, *Financial Regulatory Reform: Regulators Have Faced Challenges Finalizing Key Reforms and Unaddressed Areas Pose Potential Risks*, GAO-13-195 (Washington, D.C.: Jan. 23, 2013).

[15]GAO, *Financial Regulation: Complex and Fragmented Structure Could Be Streamlined to Improve Effectiveness*, GAO-16-175 (Washington, D.C.: Feb. 25, 2016).

[16]GAO, *Bank Regulation: Lessons Learned and a Framework for Monitoring Emerging Risks and Regulatory Response*, GAO-15-365 (Washington, D.C.: June 25, 2015).

analyses.[17] Moreover, we developed indicators which, when monitored over time, may be useful to these regulators in monitoring the effect of regulations on banks and credit unions.

Demonstrated Progress

Regulators have partially met the demonstrated progress criterion for removal from the High-Risk List. The new regulatory bodies have been taking actions to carry out their missions. For example, FSOC meets regularly to discuss issues related to risks to the U.S. financial system and issues an annual report that addresses market and regulatory developments across the financial system.

As a result of FSOC determining that the activities or characteristics of some entities are systemically important, various financial market utilities (which perform key functions in the financial system) were designated to be subject to prescribed risk management standards and four nonbank financial companies were designated to be subjected to enhanced prudential standards and supervision by the Board of Governors of the Federal Reserve (Federal Reserve), although the United States District Court for the District of Columbia rescinded the designation applicable to one company and FSOC rescinded the designation of another after the company changed its operations to reduce its systemic importance.[18]

As part of making progress in demonstrating the effectiveness of implemented reforms, FSOC also issued a mandated report in March 2016 that addressed the effect regulatory changes are having on firm sizes, diversification, and other issues. CFPB has implemented rules and taken enforcement actions that resulted in billions of dollars of relief to consumers. With the recent crisis demonstrating the importance of efficiently resolving systemically important financial institutions that fail, the Federal Reserve and the Federal Deposit Insurance Corporation completed several annual reviews of resolution plans that the Dodd-Frank

[17]GAO, *Dodd-Frank Regulations: Impacts on Community Banks, Credit Unions and Systemically Important Institutions*, GAO-16-169 (Washington, D.C.: Dec. 30, 2015).

[18]FSOC designated a fourth firm, General Electric Capital Corporation, Inc., as systemically important, but has subsequently rescinded the designation after the company changed its business such that if it experienced material financial distress it would no longer pose a threat to U.S. financial stability. The United States Court of Appeals for the District of Columbia Circuit has heard oral argument regarding the status of the MetLlife, Inc. designation. The court has not issued a ruling on the designation as of December 2016.

Act mandates large systemically important financial institutions prepare. And in response to one of our recommendations, the agencies made additional information public about the criteria they use to evaluate the plans.

Regulators also made progress reducing the potential systemic implications of certain concentrations of credit risks the Dodd-Frank Act had not addressed. Regulators have been working to reduce the potential for serious problems arising from the failure of one of the two clearing banks that provide credit to facilitate transactions in the tri-party repurchase (repo) market that provides short-term funding to many financial institutions. FSOC's 2015 annual report noted that market participants have reduced their reliance on intraday credit from the clearing banks, which reduces the risks posed by these activities.

Resolution of the Role of the Federal Government in Housing Finance

Source: GAO analysis. | 2017 High Risk List GAO-17-317

Leadership Commitment

Policymakers have shown some commitment to resolving the federal role in housing finance and have partially met this criterion for removal from

the High-Risk List. For example, in 2015 and 2016, several legislative proposals were introduced that addressed the future of the housing finance system. Some proposals focused on the secondary mortgage market, including the finances and ultimate disposition of the enterprises and developing a common mortgage securitization platform. The proposals varied in their views of an appropriate federal role in a new housing finance system. As of December 2016, none of the proposals had passed the Senate or the House of Representatives.[19]

Housing and regulatory agencies also have demonstrated commitment to strengthening the housing finance system. FHA has enhanced its risk-management practices in response to our recommendations, including creating credit and operational risk committees, and has taken actions to recapitalize its MMI Fund. FHFA has continued efforts to develop a single security for the enterprises—which may enhance market liquidity for mortgaged-backed securities—and put in place a common securitization platform for the enterprises.[20] Additionally, as we reported in our 2015 high-risk update, financial regulators have finalized rules defining qualified mortgages and qualified residential mortgages that are designed to prevent a recurrence of risky mortgage origination and securitization practices.

Capacity

Agencies have partially met this criterion for removal from the High-Risk List. FHA has made progress in strengthening its financial capacity. In fiscal years 2009–2014, FHA's MMI Fund was out of compliance with its statutory 2 percent minimum capital requirement. And at the end of fiscal year 2013, FHA drew on $1.68 billion in permanent and indefinite budget authority to ensure the MMI Fund had sufficient resources to pay for expected future losses on existing insurance obligations.[21] However, as of

[19]A provision in one of the legislative proposals was enacted, in slightly modified form, as part of the Consolidated Appropriations Act, 2016, Pub. L. No. 114-113, Div. O, § 702, 129 Stat. 2242, 3025 (2015). This provision in the act states that Treasury may not dispose of preferred stock in the enterprises, until at least January 1, 2018, unless Congress enacts legislation permitting it to do so. Another provision in the act states that Congress should enact legislation determining the future of Fannie Mae and Freddie Mac.

[20]Freddie Mac began using the new platform in late November 2016. Fannie Mae is expected to begin using the platform at a later date that has not yet been specified. The platform ultimately also may be used by other issuers of mortgage-backed securities.

[21]Permanent indefinite budget authority is available for obligation and expenditure without fiscal year limitation and is not limited to a specified amount or ceiling.

September 30, 2016, the MMI Fund's capital ratio was in compliance with the statutory requirement and stood at 2.32 percent.

The improvement is partly attributable to steps FHA took to restore its financial health. For example, FHA adjusted its insurance premiums, made the annual premium permanent for the life of the loan, and increased down-payment requirements for borrowers with lower credit scores. FHA took steps to mitigate losses by revising guidelines on home retention options for struggling borrowers and by implementing cost-effective alternatives for disposing of nonperforming loans and foreclosed properties. FHA also acted on our recommendations for increasing returns on foreclosed properties, which could help strengthen its financial position.

Under FHFA's conservatorship, the enterprises generally have operated profitably since 2012, and, through September 2016, paid more than $250 billion to Treasury in dividends. However, FHFA's Inspector General warned in March 2015 that the continued profitability of the enterprises was not assured and that the enterprises faced many financial challenges. These challenges included lower earnings on their retained investment portfolios and a reduced capacity to absorb future losses due to a capital reserve amount that falls to $0 by 2018.[22] Without a capital reserve, any quarterly losses—including those due to market fluctuations and not necessarily to economic conditions—would require the enterprises to draw additional funds from Treasury. Treasury has provided about $187.5 billion in funds as capital support to the enterprises, with an additional $258.1 billion available to the enterprises should they need further assistance.

FHFA has taken actions to assess the financial capacity of the enterprises and mitigate some of their risks. For example, FHFA has overseen annual stress tests of the enterprises, pursuant to requirements in the Dodd-Frank Act. It also has directed the enterprises to expand their use of risk-sharing transactions (to transfer some credit risk to private sector entities), develop a new framework for representations and warranties (lenders' assurances that their loans comply with enterprise standards), and develop new financial and operational standards for

[22]Under the current terms of Senior Preferred Stock Purchase Agreements with Treasury as amended, the enterprises are required to reduce their retained portfolios. They also must pay to Treasury all their quarterly positive net worth (if any) over a specified capital reserve amount, but the agreements reduce this capital reserve amount to zero in January 2018.

private mortgage insurers. But in March 2016, we concluded that FHFA lacked statutory authority to examine nonbank mortgage servicers—whose market role has increased substantially in recent years—to identify and address deficiencies that could affect the enterprises.[23] We said Congress should consider granting FHFA the authority to examine third parties, including nonbank mortgage servicers doing business with the enterprises. As of December 2016, Congress had not yet acted on that recommendation.

Action Plan

Although fundamental changes to the housing finance system have yet to be enacted, federal agencies have taken some planning steps in relation to resolving the federal role in housing finance and have therefore partially met this criterion for removal from the High-Risk List. As we noted in our 2015 high-risk update, these steps included a 2011 Treasury-HUD plan outlining a vision for the federal role, a 2014 FHFA plan identifying strategic goals for enterprise conservatorship, and a 2014 Treasury initiative to obtain public comments on the role of the private-label securities market in the current and future housing finance system. As we found in November 2016, FHFA's 2014 strategic plan shifted emphasis away from contracting the enterprises' operations, which was a goal in the 2012 plan developed under FHFA's previous director.[24] Since launching its initiative in 2014, Treasury has provided a forum for stakeholders in the private-label market to identify the structural reforms needed to bring back capital into that market in a responsible way. Additionally, in July 2016, Treasury, FHFA, and HUD issued a report with guiding principles for future efforts to mitigate mortgage losses based on lessons from the financial crisis.

Monitoring

Federal agencies have taken initial steps to provide the types of monitoring needed to assess the effects of changes to the housing finance system and have therefore partially met this criterion for removal from the High-Risk List. For example, FHFA and CFPB have strategic plans that call for monitoring different aspects of the mortgage market,

[23]GAO, *Nonbank Mortgage Servicers: Existing Regulatory Oversight Could Be Strengthened*, GAO-16-278 (Washington, D.C.: Mar. 10, 2016).

[24]GAO-17-92. FHFA said that its 2014 plan was intended to be neutral toward options for the future structure of the enterprises.

such as consumer access and emerging risks. FHFA and CFPB also have continued a joint initiative—the National Mortgage Database project—the components of which include the ongoing development of a representative database with fields that could be useful for examining the effect of mortgage market reforms. A second component is a quarterly national survey of a representative sample of recent borrowers about their experiences in obtaining a mortgage. FHFA and CFPB reported information from the first set of survey responses in May 2016. Treasury and HUD have continued to report monthly on housing market conditions through their housing market scorecard. Furthermore, FHFA and FHA have continued to monitor and report on the financial condition of the enterprises and FHA's MMI Fund.

A number of agencies—such as CFPB and HUD—have begun planning required retrospective reviews of mortgage market reforms—specifically, the qualified mortgage and qualified residential mortgage rules noted previously. However, in June 2015, we found the agencies had not yet developed sufficient metrics, baselines, and analytical methods to effectively conduct the retrospective reviews.[25] We recommended that they complete plans for the reviews and include the three elements we identified. As of December 2016, some of the agencies reported making progress to develop these improvements but had not yet completed them.

Demonstrated Progress

Policymakers and regulators have not met this criterion for removal from the High-Risk List. Overall progress on resolving the federal role in housing finance will be difficult to achieve until Congress provides further direction by enacting changes to the housing finance system. Federal agencies have begun taking some planning, capacity building, and monitoring steps. Among these are actions mentioned above to strengthen the financial condition of FHA and mitigate risks of the housing enterprises. FHFA and FHA have also taken steps to monitor progress in these areas by reporting on their financial condition and activities. Furthermore, Treasury and HUD have combined to report regularly on the condition of the housing market. Nonetheless, assessing progress against specific goals is not yet possible because Congress has not provided an overall blueprint for the future federal role in housing finance or determined the specific roles federal agencies will play.

[25]GAO-15-185.

Benefits Achieved by Implementing Our Recommendations

- In a March 2016 report on the Troubled Asset Relief Program (TARP), we found Treasury had not instituted a system to review the extent to which it would use the available program balance for the TARP-funded Making Home Affordable (MHA) program. We recommended that Treasury estimate future expenditures, deobligate funds that likely would not be expended, and move up to $2 billion of such funds to the TARP-funded Hardest Hit Fund, as authorized.[26] Consistent with our recommendations, Treasury updated estimates of future MHA program expenditures, deobligated $2 billion from the MHA program, and announced a $2 billion increase in funding for the Hardest Hit Fund.
- In June 2013, we found that HUD's performance in selling foreclosed properties with FHA-insured mortgages lagged the performance of Fannie Mae and Freddie Mac. We made recommendations intended to increase FHA's returns on such property dispositions. FHA's actions in response to our recommendations improved its returns and led to financial benefits totaling more than $3.4 billion in fiscal years 2013–2016.
- In a June 2012 report on federal foreclosure mitigation efforts, we found that Treasury had not reassessed its need for the $8 billion letter of credit facility for FHA's Refinance for Borrowers in Negative Equity Positions program. We recommended that Treasury and FHA update their estimates of program participation and use the updated estimates to reassess the terms of the letter of credit facility. The agencies implemented our recommendation. As a result, Treasury amended the purchase agreement and deobligated approximately $7.1 billion dollars, which was returned to the general fund in fiscal year 2013.
- In November 2005, we found that the proportion of FHA-insured mortgages with down payment assistance from nonprofit organizations funded by property sellers had grown substantially and that these loans performed worse than similar loans without such assistance. We recommended that FHA take a number of steps to mitigate the risks associated with these loans. Citing our work,

[26]The Hardest Hit Fund supports innovative measures developed by state housing finance agencies and approved by Treasury to help borrowers in states hit hardest by the aftermath of the housing crisis.

Congress prohibited seller-funded down-payment assistance, effective October 1, 2008. In fiscal year 2013, the financial benefit to the federal government of not insuring such loans was approximately $2.5 billion.

- After we recommended ways CFPB could better secure the data it collects on consumer credit card accounts, mortgage loans, and other products, in 2015 CFPB finalized data intake and privacy procedures and issued a new policy for addressing weaknesses in its information security environment. In 2014 CFPB conducted additional privacy training for its staff and obtained assurance from the Office of Management and Budget that its collection of credit card data complied with federal requirements. These steps should help ensure CFPB collects and protects consumer financial data in accordance with federal requirements.
- After the Dodd-Frank Act prohibited certain types of proprietary trading that had caused large losses for banks, regulators implemented our recommendation to improve their oversight by reviewing trading data before issuing final rules to implement the restriction in December 2013. These rules also identified trading data some firms will have to report to regulators. As a result, regulators should have better information to help them reduce the risk that banks will incur large trading losses.
- FHA takes possession of thousands of homes as a result of foreclosures on FHA-insured mortgages. In June 2013, we found FHA generally did not take market conditions into account when reducing list prices for unsold foreclosed properties, but instead generally followed standardized schedules. We recommended that FHA adopt practices used by other federally related housing entities, which base price reduction decisions on property-level information and market conditions. FHA implemented our recommendations in June 2016, which could reduce holding times for and improve returns on foreclosed properties.
- Additionally, in response to our November 2011 recommendation that FHA establish ongoing mechanisms for anticipating potential risks presented by changing conditions, FHA created credit and operational risk committees, which have specified tools they use to address emerging risks. Taking these steps should help FHA more effectively identify, plan for, and address risks facing the agency.

GAO Contact

For additional information about this high-risk area, contact Lawrance Evans at (202) 512-8678 or evansl@gao.gov.

Related GAO Products

U.S. Financial Regulatory System

Resolution Plans: Regulators Have Refined Their Review Processes but Could Improve Transparency and Timeliness. GAO-16-341. Washington, D.C: April 12, 2016.

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Financial Stability Oversight Council: Further Actions Could Improve the Nonbank Designation Process. GAO-15-51. Washington, D.C: November 20, 2014.

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Mortgage Reforms: Actions Needed to Help Assess Effects of New Regulations. GAO-15-185. Washington, D.C.: June 25, 2015.

Housing Finance System: A Framework for Assessing Potential Changes. GAO-15-131. Washington, D.C.: October 7, 2014.

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Restructuring the U.S. Postal Service to Achieve Sustainable Financial Viability

Why Area Is High Risk

The U.S. Postal Service (USPS) faces a serious financial situation that is putting its mission of providing prompt, reliable, and efficient universal mail services at risk.[1] It reported a net loss of $5.6 billion in fiscal year 2016—its 10th consecutive year of net losses. Additionally, it continues to face unfunded liabilities that have grown from 99 percent of USPS revenues in fiscal year 2007 to 169 percent of revenues in fiscal year 2016. These unfunded liabilities—totaling about $121 billion at the end of fiscal year 2016—consist mostly of retiree health and pension benefit obligations for which USPS has not set aside sufficient funds to cover. For example, since September 2010, USPS has not made almost $34 billion in required prefunding retiree health payments, which has led to an unfunded liability of about $52 billion.[2] USPS's ability to make payments to cover its unfunded liabilities is challenged due to (1) continued expected declines in mail volumes; (2) growing expenses; (3) expiration of a temporary rate surcharge[3] (which generated $4.6 billion in additional revenue from its January 2014 inception to its April 2016 discontinuation); and (4) no planned new major cost-savings initiatives. As a result, it is not

[1] 39 U.S.C. § 101(a).

[2] Pub. L. 109-435, § 803, 120 Stat. 3198 (Dec. 20, 2006), codified at 5 U.S.C. § 8909a. The Postal Enhancement and Accountability Act of 2006 required USPS to begin prefunding health benefits for its current and future postal retirees, with predetermined annual payments of $5.4 billion to $5.8 billion for fiscal years 2007 through 2016, followed by actuarially determined payments beginning in 2017 and every year thereafter to address any unfunded liabilities. For more detail, see GAO-13-112.

[3] In December 2013, the Postal Regulatory Commission (PRC) approved USPS's request for an "exigent surcharge" which allowed USPS to raise postal rates for most mail above the statutory price cap that is generally limited to the rate of inflation, except under extraordinary or exceptional circumstances that necessitate a larger rate increase. In July 2015, PRC ruled that USPS could continue the surcharge until it collects $4.6 billion in incremental revenue, which represents USPS's approximate loss due to the decline in mail experienced during the Great Recession.

likely that USPS will be able to make all of its required health and pension payments in fiscal year 2017.[4]

USPS's inability to make these payments may ultimately place taxpayers and the health care and pension benefits of USPS employees, retirees, and their beneficiaries at risk. Funded benefits protect the future viability of USPS by not saddling it with bills after employees have retired. USPS retirees participate in the same health and pension benefit programs as other federal retirees. Thus, if USPS ultimately does not adequately fund these benefits and if Congress wants these benefits to be maintained at current levels, funding from the U.S. Treasury and hence the taxpayer would be needed to continue the benefit at the same levels. Alternatively, unfunded benefits could pressure USPS to reduce benefits or pay for postal workers. In July 2009, we added USPS's financial condition to the list of high-risk areas needing attention by Congress and the executive branch to achieve broad-based restructuring.

What GAO Found

Source: GAO analysis. | 2017 High Risk List GAO-17-317

[4]In addition to making required payments for its retiree health benefits, in fiscal year 2017, USPS will be required to make payments to finance its postal pension benefits, specifically to address the unfunded liabilities under the Civil Service Retirement System, and to address any unfunded liabilities and normal costs of Federal Employees Retirement System benefits for current employees.

USPS has partially met all five of the criteria for removal from the High-Risk List. Although USPS has taken some steps to improve its financial situation, it has limited ability to resolve its financial difficulties, in part due to statutorily defined requirements, such as requirements to maintain 6-day delivery and resistance from external groups. USPS has made efforts to reduce its physical footprint, grow its shipping and package services, raise revenue, and reduce the gap between expenses and revenue. However, these initiatives are insufficient to restore USPS's financial viability. USPS has no plans to initiate new major initiatives that would achieve necessary cost savings—USPS has previously faced resistance to such efforts from customers and Congress.

USPS's Five Year Strategic Plan for fiscal years 2017 to 2021 identified specific legislative changes needed for USPS to return to long-term financial health. Furthermore, USPS continued to monitor its situation through public quarterly and annual financial reports that discuss its financial status and performance, but has also reported that it cannot secure its near- or long-term financial outlook without the passage of targeted postal reform legislation. The House Committee on Oversight and Government Reform approved a bill that addressed some of USPS's solvency challenges; however, the bill was not enacted and there continues to be a lack of consensus about how to address the trade-offs that are inherent with resolving USPS's financial difficulties.

What Remains to Be Done

USPS needs to continue taking action to reduce costs related to its operations, workforce, and facilities, and to increase revenues so that it can reduce its net losses, fully make its required payments to fund employee benefits, repay its debt, and generate capital for investments, such as replacing its aging vehicle fleet.

Congress and USPS need to agree on a comprehensive package of actions to improve USPS's financial viability. These actions include (1) modifying USPS's retiree health benefit payments in a fiscally responsible manner; (2) facilitating USPS's ability to better align costs with revenues; and (3) requiring any binding arbitration in the negotiation process for USPS labor contracts to take USPS's financial condition into account.

Additional Details on What GAO Found

Leadership Commitment

While USPS's leadership has been committed to increasing revenue and reducing expenses in an effort to put USPS on a more stable financial path, USPS has no plans to initiate new major initiatives that would achieve necessary cost savings. Although USPS has previously faced resistance to such efforts from customers and Congress, committing to major cost-saving initiatives may serve to reiterate the need for broad-based restructuring. The efforts USPS has implemented thus far have been insufficient to eliminate net losses. For example, a temporary 4.3 percent "exigent" surcharge was implemented to address losses from decreased mail volume during the Great Recession, which occurred between December 2007 and June 2009. The surcharge began in January 2014 and was discontinued in April 2016, generating $4.6 billion in additional revenue during this period—including $1.1 billion in fiscal year 2016, $2.1 billion in fiscal year 2015, and $1.4 billion in fiscal year 2014. Furthermore, starting in fiscal year 2011, USPS established Delivering Results, Innovation, Value, and Efficiency initiatives to reduce the large gap between revenue and costs, and to implement strategic initiatives with measurable outcomes.

Capacity

USPS has made efforts to right-size its operations to better adapt to declining mail volumes that are adversely affecting its financial position, but these efforts have not been sufficient to fully address USPS's excess capacity in its mail processing network. Right-sizing its operations can enable USPS to better match resources with mail volume and address its compensation and benefits costs—which account for close to 80 percent of total expenses. USPS reduced its physical footprint by consolidating 36 mail processing facilities in fiscal year 2015, instituting operational changes to better utilize resources at processing facilities, and reducing the hours of over 13,000 post offices so that retail service better matches demand. Despite these efforts, however, USPS reported that work hours and its overall workforce increased in fiscal years 2015 and 2016 due, in part, to significant volume-growth in shipping and packages (14.1 percent in fiscal year 2015 and 13.8 percent in fiscal year 2016), which are more labor intensive to process.

USPS reported that although the 15.8 percent growth in shipping and packages revenue helped generate additional total revenue of $2.6 billion (a 3.7 percent increase), package growth also contributed to an increase of 18,000 employees in fiscal year 2016, and an increase in total expenses of about $3.1 billion (about 4.2 percent). In addition, although it experienced net losses, USPS's compensation expenses increased by 2 percent in fiscal year 2016 due to salary increases and additional work hours. Furthermore, as part of its efforts to reduce excess capacity, USPS revised its standards for on-time mail delivery in January 2015 by increasing the number of days for some mail to be delivered and still be considered on time. Even with the revised standards, on-time delivery performance declined significantly, particularly for the second quarter of fiscal year 2015, a decline USPS attributed to operational changes enacted in January 2015 and adverse winter weather. Performance has rebounded since then, but with the rebound came increases in workforce and mail transportation costs.

Action Plan

USPS's Five-Year Strategic Plan for fiscal years 2017 to 2021 outlines its strategy for achieving financial viability. USPS's plan summarizes changes that USPS has made or plans to make, and those that it would like Congress to address in postal reform legislation. We continue to believe that legislative action is needed to address USPS's financial challenges, and in the interim, as previously noted, USPS has no current plans to undertake additional major initiatives to achieve significant cost savings in its operations—USPS has previously faced resistance to such efforts from customers and Congress.

Monitoring

USPS continued to monitor its situation through public quarterly and annual financial reports that discuss its financial status and performance, including trends USPS expects to become more pronounced and will significantly impact its current business model. USPS, however, has also reported that it cannot secure its near- or long-term financial outlook without the enactment of targeted postal reform legislation.

Demonstrated Progress

USPS's actions have demonstrated some progress in achieving cost savings, as noted above. USPS has reported, however, that despite

these efforts, statutory restrictions on its business model have left it unable to cover its total costs.

We have issued a number of reports that included strategies and options for USPS to generate revenue, reduce costs, increase the efficiency of its delivery operations, and restructure the funding of pension and retiree health benefits.[5] USPS has already acted on some of these strategies and options. Nonetheless, we have also reported that USPS's actions alone under its existing authority will be insufficient to achieve sustainable financial viability and that comprehensive legislation is urgently needed to position USPS to be a sustainable entity.

Benefits Achieved by Implementing Our Recommendations

- USPS improved the usefulness and transparency of its delivery performance information. USPS updated its website in June 2016 to include trend data for on-time delivery performance for all 67 postal districts beginning in the second quarter of fiscal year 2015 to the current quarter. While this accomplishment will not lead to financial benefits, the updated website will lead to more transparent and effective oversight of delivery performance to hold USPS accountable for meeting its statutory mission to provide service in all areas of the nation. As a result, USPS performance information is easily accessible and Postal stakeholders can determine whether delivery performance is a problem in rural areas.
- Congress has taken limited action over the past year to address the need for postal reform including the following:
- A January 2016 hearing titled, "Laying out the Reality of the United States Postal Service," held by the Senate Committee on Homeland Security and Governmental Affairs.
- A May 2016 hearing regarding USPS's ongoing financial challenges held by the House Committee on Oversight and Government Reform.

[5]For example, our December 2012 report analyzed five different approaches for funding retiree health benefits and discussed the differing impacts that each alternative would have on USPS's future annual payments and unfunded liabilities. GAO, *U.S. Postal Service: Status, Financial Outlook, and Alternative Approaches to Fund Retiree Health Benefits*, GAO-13-112 (Washington, D.C.: Dec. 4, 2012).

- The House Committee on Oversight and Government Reform approved a bill that addressed some of USPS's solvency challenges; however, this bill was not enacted.

GAO Contact

For additional information about this high-risk area, contact Lori Rectanus at (202) 512-2834 or rectanusl@gao.gov.

Related GAO Products

U.S. Postal Service: Continuing Financial Challenges and the Need for Postal Reform. GAO-16-651T. Washington, D.C.: May 11, 2016.

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U.S. Postal Service: Status, Financial Outlook, and Alternative Approaches to Fund Retiree Health Benefits. GAO-13-112. Washington, D.C.: December 4, 2012.

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Management of Federal Oil and Gas Resources

Why Area Is High Risk

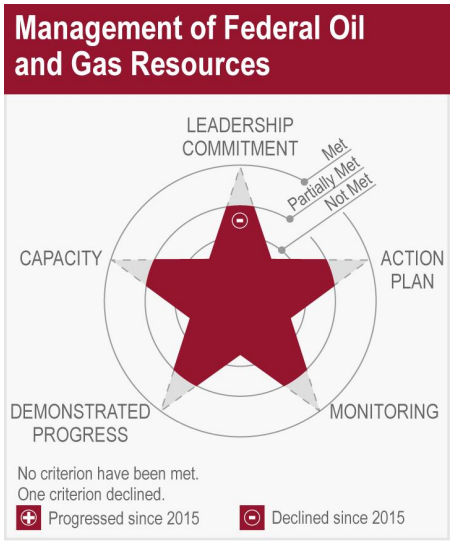
The Department of the Interior (Interior) has taken some steps to strengthen how it manages federal oil and gas resources, but has not met the criteria for removal from our High-Risk List. Interior has not implemented four of our recommendations to improve the verification of oil and gas produced from federal leases, and the reasonableness and completeness of royalty data. Management of federal oil and gas resources was added it to the High-Risk List in 2011. We identified challenges in Interior's management of oil and gas on leased federal lands and waters. We found that Interior (1) lacked reasonable assurance that it was collecting its share of revenue from oil and gas produced on federal lands and waters; (2) continued to experience problems hiring, training, and retaining sufficient staff to oversee and manage oil and gas operations on federal lands and waters; and (3) was undertaking a major reorganization of its oversight of offshore oil and gas management and revenue collection functions. In 2013, after concluding that Interior had fundamentally completed its reorganization, we narrowed the high-risk area to Interior's revenue collection and human capital challenges. For this update, we are reopening the third segment based on our February 2016 report, in which we found that Interior's restructuring of the Bureau of Safety and Environmental Enforcement (BSEE) has made limited progress addressing long-standing deficiencies in the bureau's investigative, environmental compliance, and enforcement capabilities.

Federal oil and gas resources provide an important source of energy for the United States; create jobs in the oil and gas industry; and generate billions of dollars annually in revenues that are shared between federal, state, and tribal governments. Interior reported collecting over $49 billion from fiscal years 2011 through 2015 from royalties and other payments. This makes oil and gas resources one of the federal government's largest sources of nontax revenue. Moreover, the April 2010 explosion onboard the Deepwater Horizon and subsequent oil spill in the Gulf of Mexico highlighted the importance of Interior's management of permitting and inspection processes to ensure operational and environmental safety.

In 2010, we found that Interior faced various human capital challenges, including hiring and retaining staff and, as a result, had difficulty meeting its responsibilities overseeing oil and gas activities on offshore federal leases. We also found that Interior had not consistently and appropriately trained offshore inspection and engineering staff. Historically, Interior's Bureau of Land Management (BLM) oversaw onshore federal oil and gas activities while the Minerals Management Service managed offshore activities and collected royalties for all leases. Interior completed restructuring its oil and gas program in 2011, transferring offshore oversight responsibilities to two new bureaus—the Bureau of Ocean Energy Management (BOEM) and BSEE—and assigning the revenue collection function to a new Office of Natural Resources Revenue (ONRR). BLM did not restructure its management of onshore federal oil and gas activities.

BSEE's mission is to promote safety, protect the environment, and conserve offshore resources through regulatory oversight and enforcement. It oversees offshore operations, which includes the authority to investigate incidents that occur on the outer continental shelf, monitor operator compliance with environmental stipulations, and take enforcement actions against operators that violate safety or environmental standards. Yet more than 5 years after its creation, BSEE continues to use investigative policies and procedures that predate the Deepwater Horizon explosion. BSEE's outdated policies and procedures do not require planning investigations, gathering and documenting evidence, and ensuring quality control, potentially undermining the effectiveness of investigations. Moreover, BSEE's ongoing restructuring of its environmental compliance program reverses steps taken to address post–Deepwater Horizon incident concerns, risking the bureau's abilities to oversee environmental compliance. Additionally, BSEE did not review its maximum daily civil penalty as required by the Outer Continental Shelf Lands Act.

What GAO Found



Source: GAO analysis. | 2017 High Risk List GAO-17-317

While Interior has taken some steps to strengthen how it manages federal oil and gas resources, it has not met the criteria for removal from our High-Risk List. Interior has not implemented four of our prior recommendations to improve the verification of oil and gas produced from federal leases, and the reasonableness and completeness of royalty data. In April 2015, we made seven additional recommendations to the Secretary of the Interior to improve production verification efforts, two of which remain open. In January 2014, to ensure a consistent and comprehensive approach to addressing BLM's, BOEM's, and BSEE's ongoing hiring and retention challenges, we made two recommendations to Interior to explore the expanded use of recruitment, relocation, and retention incentives, and systematically collect data on hiring times. We closed the first recommendation as implemented, but the second remains open. In September 2016, we made five recommendations to Interior to improve staff hiring, retention, and training; all five remain open. In February 2016, we made nine recommendations to Interior to address BSEE's ongoing restructuring effort; eight of those recommendations remain open. Based on these factors and our ongoing work examining BSEE's strategic initiatives to improve its offshore oversight and internal management, we are expanding the Management of Federal Oil and Gas Resources high-risk area to again include a segment on Interior's restructuring of offshore oil and gas oversight.

What Remains to Be Done

Interior has partially met the criteria to address the revenue collection and human capital challenges we identified, and has implemented some of the recommendations we made. However, Interior needs to do more to meet its responsibilities to manage federal oil and gas resources, and to maintain leadership commitment in addressing the remaining four criteria.

Leadership Commitment: To address its human capital challenges, Interior needs to evaluate the effectiveness of incentives such as special salary rates, analyze hiring time data, and evaluate the bureaus' training programs. To enhance Interior's oversight of oil and gas development, and fully implement the bureau's restructuring and effectively oversee offshore oil and gas development, BSEE leadership needs to take several steps, such as completing draft policies outlining the responsibilities of its divisions, and updating and developing procedures to guide them. BSEE leadership also needs to conduct a risk analysis of its environmental compliance program.

Capacity: To address its revenue collection challenges, Interior will need to identify the staffing resources necessary to consistently meet its annual goals for inspecting and verifying oil and gas production. To address its human capital challenges, Interior needs to evaluate whether its efforts to increase compensation paid to key oil and gas staff were effective in hiring and retaining staff. Interior also needs to fully evaluate the bureaus' training programs and look for potential opportunities to share training resources.

Action Plan: To address its revenue collection challenges, Interior needs to continue its efforts related to its study on automating data collection from production metering systems. To address its human capital challenges, Interior needs to track, monitor, and analyze the effectiveness of the incentives paid to key oil and gas staff. Interior also needs to analyze data from its new human resources software system in order to identify steps in the hiring process that may be causing delays. Regarding training, Interior needs to review training and identify opportunities to share training resources.

Monitoring: To address its revenue collection challenges, Interior needs to ensure that oil and gas produced from federal leases is accurately measured, and that the federal government is collecting an appropriate share of oil and gas revenues. To address its human capital challenges,

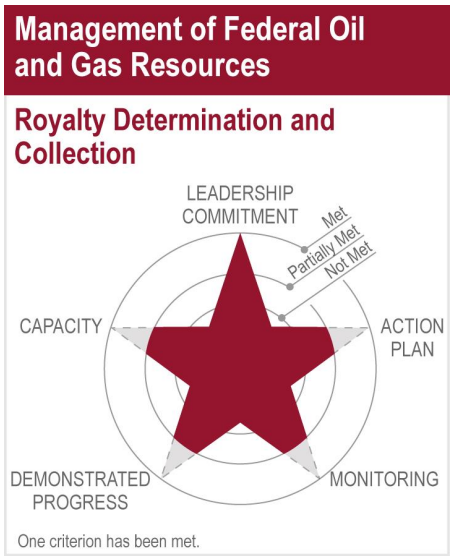
Interior needs to track and monitor performance metrics for incentive payments and special salary rates, capture accurate data on hiring time from a new human resources software system, and evaluate training programs.

Demonstrated Progress: To address its revenue collection challenges, Interior needs to continue to effectively implement our related recommendations as outlined in the areas above. To address its human capital challenges, Interior must continue to show progress in hiring, retaining, and training its key oil and gas staff.

Additional Details on What GAO Found

Overall, Interior has partially met the criteria for leadership commitment, capacity, action planning, monitoring, and demonstrated progress. All of the 2017 ratings are the same as the 2015 ratings except for leadership commitment, which dropped from met to partially met for the human capital challenges segment, discussed below.

Royalty Determination and Collection



Source: GAO analysis. | 2017 High Risk List GAO-17-317

Interior has demonstrated leadership commitment to address revenue collection weaknesses and partially met the remaining four criteria.

Leadership Commitment

Interior's leadership has demonstrated its commitment to addressing revenue collection weaknesses. For example, ONRR established a Data Mining Services Group to help identify potentially erroneous data submitted by companies paying royalties. ONRR is also studying whether it can use automated data collection from metering systems to more efficiently obtain oil and gas production data used to determine royalties from companies.

Capacity

Interior's capacity to address weaknesses in revenue collection is uneven. In recent years, Interior has hired offshore inspection staff to focus primarily on oil and gas measurement inspections. We found in April 2015 that BSEE came close to meeting its annual inspection goals for verifying oil and gas production in the Gulf of Mexico for fiscal years 2009 through 2013. On the other hand, for the same time frame, we found that BLM did not meet its oil and gas production inspection goals, which officials attributed, in part, to insufficient inspection staff.

Action Plan

Interior has plans in place to continue implementing our recommendations aimed at correcting weaknesses in its revenue collection policies and practices. In November 2014, Interior provided a briefing document specifying goals and time frames for several areas related to these weaknesses. For example, in December 2013, we recommended that BLM issue revised regulations to provide it with greater flexibility in setting royalty rates and better ensure that the public receives a fair return from the oil and gas produced from federal leases. In November 2014, Interior stated that it planned to begin addressing this issue in fiscal year 2015 by issuing an advanced notice for proposed rulemaking. In November 2016, Interior amended its regulations to, among other things, allow for greater flexibility in setting royalty rates. Interior's briefing document also specified other goals and time frames for completing a study on automating data collection from production metering systems, and for establishing procedures on when to periodically assess its fiscal system. Interior completed the latter of these two actions in August 2016.

Monitoring

Interior has undertaken several efforts to monitor its performance in addressing revenue collections weaknesses. For example, Interior's November 2014 briefing document demonstrated that it is tracking the implementation of Interior Inspector General recommendations as well as our recommendations related to our high-risk findings. Interior's briefing document indicates it has established milestones for a number of actions, including updating oil and gas measurement regulations. However, in our ongoing work, we found that BLM did not schedule nor complete a planned internal review to assess the overall effectiveness of other newly issued oil and gas guidance within 1 year of when BLM field office staff implemented the guidance. The new guidance outlines criteria for approving "commingling" requests—requests to combine oil or gas from public, state, or private leases prior to royalty measurement—and identifies considerations for determining whether commingling is in the public interest. This includes ensuring that BLM has the ability to verify that production is accurately measured and properly reported. Because it has not scheduled and completed a review of the effectiveness of the new commingling guidance after its implementation, BLM does not have reasonable assurance that its staff are consistently applying the new guidance, and that staff are able to verify production.

Demonstrated Progress

Interior has demonstrated progress addressing weaknesses in its revenue collection policies and practices. As of January 2017, we found that Interior implemented 42 of 46 recommendations we had made since September 2008 addressing revenue collection weaknesses, including those related to oil and gas production verification and royalty data. However, as mentioned above, Interior has not completed reviewing the effectiveness of the new commingling guidance. Additionally, in March 2010, we found that Interior's production accountability program did not sufficiently address key factors that could affect gas measurement accuracy, and recommended that Interior establish goals for particular types of measurement inspections. Interior agreed with the recommendation, but as of October 2016, it has not fully implemented it. Without completing this action, Interior cannot be assured that oil and gas are being reasonably measured and associated royalty payments are correct.

Human Capital Challenges

Source: GAO analysis. | 2017 High Risk List GAO-17-317

Interior has partially met the five criteria below.

Leadership Commitment

The rating for leadership commitment dropped from ‘met’ in 2015 to ‘partially met’ in 2017. In January 2014, we recommended that Interior explore expanding its use of hiring incentives and systematically collect and analyze hiring data. Interior agreed with our recommendations and began to more systematically collect and analyze hiring data to identify causes for delays and expedite the hiring process. In November 2014, Interior senior officials briefed us on planned actions to address the department’s human capital challenges. As of September 2016, however, some of these planned actions had not yet been implemented or completed, as we reported. For example, Interior senior officials told us that they would implement a performance measure framework to evaluate the effectiveness of incentives on a quarterly basis beginning in April 2015. However, as of July 2016, a senior official from the Office of Policy, Management and Budget said these quarterly reviews had not yet begun.

Regarding hiring time, BLM, BSEE, and BOEM adopted new human resources software in 2015 to provide better data to track their hiring process, but as of June 2016, officials had not completed analyzing data

extracted from this new system, and their hiring process continued to exceed the Office of Personnel Management's (OPM) goal of 80 days. Regarding training, we reported in September 2016 that Interior and the three bureaus had trained key oil and gas staff without fully evaluating the bureaus' staff training needs or the training's effectiveness, and Interior had provided limited leadership to facilitate the bureaus sharing training resources. We also reported that BSEE has not implemented a certification program for its inspectors, although the Outer Continental Shelf Safety Oversight Board and Interior Inspector General recommended it in 2010.

Capacity

Interior continues to partially meet this criterion. In 2010, we found that Interior's bureaus experienced high turnover rates in key oil and gas inspection and engineering positions. In January 2014, we found that Interior's hiring and retention challenges were largely due to lower salaries and a slow hiring process compared with similar positions in industry. The fiscal year 2012 attrition rate for petroleum engineers at BLM was more than 20 percent, or more than double the average federal attrition rate of 9.1 percent. The attrition rate for other key oil and gas staff was lower, but still a challenge because some field offices had only a few employees in any given position, and a single separation could significantly affect operations. According to Interior officials, these challenges made it more difficult for some field offices to conduct oversight activities, including inspecting production facilities.

Since fiscal year 2012, Interior has increased compensation for certain key oil and gas staff by using special salary rates, incentive payments, and student loan repayments. During fiscal years 2012 through 2016, Interior had special salary rates—authorized by Congress in annual appropriations acts—that allowed it to pay certain staff up to 25 percent more than their basic pay. In addition, some of the bureaus increased compensation through other tools, such as incentive payments and student loan repayments. For example, for fiscal years 2012 through 2014, BLM and BSEE substantially increased the number of employees receiving a retention incentive payment from 14 to 346 employees. During the same period, BSEE and BOEM increased the number of staff receiving a student loan repayment from 25 to 66 employees. Officials from the three bureaus said that anecdotally they know that efforts to increase the compensation paid to key oil and gas staff, along with an industry downturn that reduced private sector hiring, had likely helped them fill vacancies. Outside of these anecdotal observations, however,

Interior and the bureaus have not evaluated whether their efforts, and the specific tools they used, were effective in hiring and retaining staff.

Regarding training, we reported in September 2016 that Interior and its bureaus had trained key oil and gas staff without fully evaluating training, and have missed opportunities to share training resources. Specifically, none of the bureaus reported conducting evaluations that would give them information about the overall effectiveness of their training efforts by measuring the effect on staff's job performance and comparing program benefits to training costs.

Action Plan

Interior continues to partially meet this criterion. Interior does not have a written action plan summarizing how it will address its human capital challenges; however, agency officials have described some actions it plans to take to address these challenges. To evaluate the effectiveness of the agency's efforts to increase compensation paid to key oil and gas staff, such as the use of incentive payments and special salary rates, officials said in September 2016, that they had developed initial performance metrics and gathered data for the first three quarters of fiscal year 2016. Officials said they would continue to track and monitor the data on a quarterly basis.

To address the lengthy hiring process, officials from the three bureaus said in June 2016 that they had started analyzing data extracted from a new human resources software system in order to identify steps in the hiring process that may be causing delays. Regarding training, a senior Interior official we interviewed told us in January 2016, that their Interior Training Directors Council—composed of senior training officials across Interior—would begin reviewing training across the bureaus and seek to identify opportunities to share training resources. However, as of June 2016, officials had not reported any progress made by the council, and it is unclear what, if any, steps the office has taken to review training and identify opportunities to share training resources. In addition, it is unclear what, if any, actions the agency will take in response to the recommendations we issued in September 2016 directing the agency to develop technical competencies for all key oil and gas staff, and annually evaluate the bureaus' training programs and viability of a certification program for BSEE inspectors.

Monitoring

Interior continues to partially meet this criterion. Interior and the three bureaus have taken some steps to reduce hiring times, but did not have complete and accurate data to identify the causes of delays in the hiring process. Without reliable data, Interior's bureaus cannot effectively implement changes to expedite the hiring process. We recommended in January 2014 that Interior systematically collect data on hiring times for key oil and gas positions, ensure the accuracy of the data, and analyze the data to identify the causes of delays and expedite the hiring process. In June 2016, officials from the three bureaus said that they had started analyzing data extracted from a new human resources software system in order to identify steps in the hiring process that may be causing delays. Once Interior has the systems in place to capture accurate data on hiring, the department will be able to monitor hiring times and the causes of delays in the hiring process.

In addition, Interior officials said in September 2016 that they had developed initial performance metrics to track and monitor on a quarterly basis the effectiveness of incentive payments and special salary rates that the agency has used to try to increase compensation paid to its key oil and gas staff. These officials also said they had gathered data for the first three quarters of fiscal year 2016, and would continue to track and monitor the data on a quarterly basis. However, the agency had not yet used these data to evaluate the effectiveness of incentives. We recommended that Interior regularly evaluate the effectiveness of available incentives, such as special salary rates, the student loan repayment program, and other incentives in hiring and retaining key oil and gas staff.

In regards to training, we reported in September 2016 that Interior had not evaluated training needs or effectiveness as required by law and regulations, according to officials, and we recommended the agency annually evaluate the bureaus' training programs. We also reported that Interior's bureaus have not evaluated training needs or effectiveness as directed by departmental policy. We recommended in September 2016 that the agency develop technical competencies for all key oil and gas staff, and annually evaluate the bureaus' training programs and the viability of a certification program for BSEE inspectors. It is unclear what, if any, actions the agency will take in response to these recommendations.

Demonstrated Progress

Interior continues to partially meet this criterion. In 2015, we reported that Interior and the three bureaus had taken some actions to address these hiring and retention challenges, but had not fully used their existing authorities to supplement salaries and provide other recruitment, relocation, and retention incentives.

In September 2016, we found that Interior has made progress in expanding the use of recruitment, relocation, and retention incentives to address hiring and retention challenges, but as yet cannot demonstrate the effectiveness of these measures. In 2014, the three bureaus increased the number of staff receiving these incentives and, in 2015, the bureaus developed guidance on their use. In addition, during fiscal years 2012 through 2016, Interior had special salary rates—authorized by Congress in annual appropriations acts—that allowed it to pay certain staff up to 25 percent more than their basic pay. In September 2016, Interior described its plans to collect data on the three incentives and special salary rates in order to measure effectiveness.

Regarding their lengthy hiring process, in January 2014, we reported that Interior records showed that the average time to hire petroleum engineers and inspectors generally exceeded 120 calendar days—much longer than OPM's target of 80 calendar days. We also found in September 2016 that each of the three bureaus has taken steps to begin to address their lengthy hiring process. In 2015, the three bureaus adopted new human resources software that officials said will provide them with better data to track their hiring process. In June 2016, officials from the three bureaus said that they had started analyzing data extracted from this new system to identify steps in the hiring process that may be causing delays.

Regarding training, we found in March 2010 that Interior had not consistently and appropriately trained offshore inspection and engineering staff. In July 2012, we reported that Interior was creating a new training program for its offshore inspection and engineering staff. However, in September 2015, BSEE inspectors at four local offices told us that the offshore training courses BSEE provided them, which were primarily led by contractors, did not adequately prepare them to perform inspections because the courses focused on how equipment operates, and did not teach them how to inspect the equipment. More broadly, we found in September 2016 that none of the three bureaus had evaluated training needs or effectiveness as directed by departmental policy. Without evaluating its bureaus' training efforts, Interior may not be able to ensure

that its key oil and gas staff are being adequately trained to conduct oversight, and may be ineffectively and inefficiently spending training funds.

Restructuring of Offshore Oil and Gas Oversight

In 2013, we removed the reorganization segment because the agency successfully restructured following Deepwater Horizon. However, we are expanding the Management of Federal Oil and Gas Resources high-risk area based on our recent work. In February 2016, we reported that BSEE's leadership had undertaken several efforts to reform the bureau's oversight capabilities. Yet, after more than 5 years since the bureau was created, BSEE has not finalized the underlying policies and procedures to facilitate implementing the bureau's new divisions for Safety and Incident Investigation, Environmental Compliance, and Safety Enforcement. By not completing policies and procedures to establish the bureau's new divisions, BSEE risks undermining the effectiveness of its oversight capabilities. Moreover, BSEE's deficient oversight capabilities continue to undermine its ability to effectively oversee offshore oil and gas development.

Benefits Achieved by Implementing Our Recommendations

- In response to recommendations we made in April, 2015, Interior issued updated onshore (1) gas measurement, (2) oil measurement, and (3) oil and gas site security regulations. These new regulations should help ensure that oil and gas produced from federal leases are accurately measured. Accurate measurement is critical for calculating the royalty payments operators pay the government.
- In response to a recommendation we made in July 2012, Interior reported that the two bureaus, BOEM and BSEE, jointly approved an information technology plan. This plan, according to Interior documents, is a roadmap that outlines a framework for deploying technology resources throughout the organizations in support of bureau missions, goals, and program priorities.
- In response to a recommendation we made in July 2012, BSEE in August 2013 and BOEM in September 2016 issued human capital plans.

- In response to a recommendation we made in January 2014, Interior took several actions to bridge the salary gap for key oil and gas oversight staff. Specifically, BLM, BSEE, and BOEM increased the number of staff receiving retention, recruitment, or relocation incentive payments in fiscal year 2014 and in fiscal year 2015 issued guidance describing which staff should receive these incentives. In addition, in September 2016, Interior outlined steps it will take to assess the effectiveness of these incentives by tracking measures such as turnover and acceptance rates.

Interior also implemented recommendations that we identified as priority recommendations to the Secretary of Interior.

- In response to a recommendation we made in December 2013, Interior took steps within its authority to revise BLM's regulations to provide for flexibility to the bureau to make changes to onshore royalty rates, similar to that which is already available for offshore leases, to enhance Interior's ability to make timely adjustments to the terms for federal onshore leases.
- In response to a recommendation we made in December 2013, the Secretary of the Interior established documented procedures for determining when to conduct periodic assessments of the overall fiscal system. These procedures identified generally when such an assessment should be done or what changes in the market or industry would signal that such an assessment should be done.
- In response to a recommendation we made in December 2013, the Secretary of the Interior established documented procedures for determining whether and how to adjust lease terms for new offshore leases, including documenting the justification and analysis supporting any adjustments.

GAO Contact

For additional information about this high-risk area, contact Frank Rusco at (202) 512-3841 or ruscof@gao.gov.

Related GAO Products

Oil and Gas Oversight: Interior Has Taken Steps to Address Staff Hiring, Retention, and Training but Needs a More Evaluative and Collaborative Approach. GAO-16-742. Washington, D.C.: September 29, 2016.

Oil and Gas Management: Interior's Bureau of Safety and Environmental Enforcement has Not Addressed Long-Standing Oversight Deficiencies. GAO-16-245. Washington, D.C.: February 10, 2016.

Oil and Gas Resources: Interior's Production Verification Efforts and Royalty Data Have Improved, but Further Actions Needed. GAO-15-39. Washington, D.C.: April 7, 2015.

Oil and Gas: Updated Guidance, Increased Coordination, and Comprehensive Data Could Improve BLM's Management and Oversight. GAO-14-238. Washington, D.C.: May 5, 2014.

Oil and Gas Management: Continued Attention to Interior's Human Capital Challenges Is Needed. GAO-14-394T. Washington, D.C.: February 27, 2014.

Oil and Gas: Interior Has Begun to Address Hiring and Retention Challenges but Needs to Do More. GAO-14-205. Washington, D.C.: January 31, 2014.

Oil and Gas Resources: Actions Needed for Interior to Better Ensure a Fair Return. GAO-14-50. Washington, D.C.: December 6, 2013.

Oil and Gas Management: Interior's Reorganization Complete, but Challenges Remain in Implementing New Requirements. GAO-12-423. Washington, D.C.: July 30, 2012.

Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks

Why Area Is High Risk

Climate change is considered by many to be a complex, crosscutting issue that poses risks to many environmental and economic systems and presents a significant financial risk to the federal government. According to the National Research Council (NRC), although the exact details cannot be predicted with certainty, there is clear scientific understanding that climate change poses serious risks to human society and many of the physical and ecological systems upon which society depends.[1] According to the United States Global Change Research Program (USGCRP), among other reported impacts, climate change could threaten coastal areas with rising sea levels, alter agricultural productivity, and increase the costs of severe weather events as these once "rare" events potentially become more common and intense due to climate change.[2]

[1]NRC is the principal operating agency of the National Academy of Sciences and the National Academy of Engineering. NRC, Committee on America's Climate Choices, *America's Climate Choices* (Washington, D.C.: 2011). See also NRC, *Climate Change: Evidence, Impacts, and Choices. Answers to common questions about the science of climate change* (Washington, D.C.: 2012). For more information about NRC's recent reports on climate change, click here.

[2]Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe, eds., *Climate Change Impacts in the United States: The Third National Climate Assessment*, U.S. Global Change Research Program (Washington, D.C.: U.S. Government Printing Office, May 2014). USGCRP coordinates and integrates the activities of 13 federal agencies that research changes in the global environment and their implications for society. USGCRP began as a presidential initiative in 1989 and was codified in the Global Change Research Act of 1990 (Pub. L. No. 101-606, § 103 (1990)). USGCRP-participating agencies are the Departments of Agriculture, Commerce, Defense, Energy, Interior, Health and Human Services, State, and Transportation; the U.S. Agency for International Development; the Environmental Protection Agency; the National Aeronautics and Space Administration; the National Science Foundation; and the Smithsonian Institution.

For example, the Department of Defense's (DOD) 2010 and 2014 Quadrennial Defense Reviews state that climate change poses risks to defense infrastructure, particularly on the coasts. DOD's infrastructure consists of more than 555,000 defense facilities and 28 million acres of land, with a replacement value of close to $850 billion.[3] In addition, extreme weather events have cost the nation tens of billions of dollars over the past decade. For example, in January 2013, about $60 billion in budget authority was provided for expenses related to the consequences of Superstorm Sandy. Further, based on a 2013 analysis of disaster relief appropriations by the Congressional Research Service, the amount of inflation-adjusted disaster relief per fiscal year increased from a median of $6.2 billion for the years 2000 to 2006, to a median of $9.1 billion for the years 2007 to 2013 (46 percent).[4]

These impacts call attention to areas where government-wide action is needed to reduce fiscal exposure, because, among other roles, the federal government (1) leads a strategic plan that coordinates federal efforts and also informs state, local, and private-sector action; (2) owns or operates extensive infrastructure vulnerable to climate impacts, such as defense facilities and federal property; (3) insures property and crops vulnerable to climate effects; (4) provides data and technical assistance to federal, state, local, and private-sector decision makers responsible for managing the impacts of climate change on their activities; and (5) provides disaster relief aid. As a result, we added Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks to the High-Risk List in 2013.

One way to reduce the potential impacts of climate change is to enhance climate resilience.[5] When discussing climate change, the term adaptation—defined as adjustments to natural or human systems in response to actual or expected climate change—is synonymous with

[3]GAO, *Climate Change Adaptation: DOD Can Improve Infrastructure Planning and Processes to Better Account for Potential Impacts*, GAO-14-446 (Washington, D.C.: May 30, 2014).

[4]GAO, *Climate Change: Better Management of Exposure to Potential Future Losses Is Needed for Federal Flood and Crop Insurance,* GAO-15-28 (Washington, D.C.: Oct. 29, 2014).

[5]The National Academies define resilience as the ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events. The National Academies, Committee on Increasing National Resilience to Hazards and Disasters; Committee on Science, Engineering, and Public Policy; *Disaster Resilience: A National Imperative* (Washington, D.C.: 2012).

enhancing climate resilience. Adaptation measures to protect infrastructure, for example, include raising river or coastal dikes to protect infrastructure from sea level rise, building higher bridges, and increasing the capacity of storm water systems. Enhancing climate resilience can cost additional money up front, but could also reduce potential future damage from climate-related events that—given expected budget pressures—would otherwise constrain federal programs. As stated in a 2010 NRC report, increasing the nation's ability to respond to a changing climate can be viewed as an insurance policy against climate change risks.[6]

Furthermore, according to NRC and USGCRP, the nation can reduce its vulnerability by limiting the magnitude of climate change through actions to limit greenhouse gas emissions.[7] We recognize that (1) the federal government has a number of efforts underway to decrease domestic greenhouse gas emissions, and (2) the success of efforts to reduce greenhouse gas emissions depends in large part on cooperative international efforts. However, limiting the federal government's fiscal exposure to climate change risks will be challenging no matter the outcome of efforts to reduce emissions, in part because greenhouse gases already in the atmosphere will continue altering the climate system for many decades, according to NRC and USGCRP.[8]

[6]NRC, Panel on Adapting to the Impacts of Climate Change, *America's Climate Choices: Adapting to the Impacts of Climate Change* (Washington, D.C.: 2010).

[7]In the atmosphere, greenhouse gases absorb and reemit radiation within the thermal infrared range of the electromagnetic spectrum. This is the fundamental cause of the greenhouse effect, or the warming of Earth's atmosphere. In order of their prevalence by volume, the primary greenhouse gases are water vapor, carbon dioxide, methane, nitrous oxide, and ozone.

[8]The focus of this high-risk area may evolve over time to the extent that federal climate change programs and policies change.

What GAO Found

Source: GAO analysis. | 2017 High Risk List GAO-17-317

As of December 2016, the federal government has taken additional steps since our 2015 update and partially met four of the five criteria for removal from our High-Risk List—leadership commitment, capacity, action plan, and monitoring. Specifically, the federal government partially met the monitoring criterion, which had been rated not met in the 2015 report, and has taken further action in three criteria that remain partially met—leadership commitment, capacity, and action plan.[9] However, the demonstrated progress criterion remains not met because it is too early to determine whether the federal government has made progress.

Various executive orders (E.O.), task forces, and strategic planning documents identify climate change as a priority and demonstrate leadership commitment. This leadership commitment needs to be sustained and enhanced to address all aspects of the federal fiscal exposure to climate change in a cohesive manner. As we reported in

[9]For example, in response to a recommendation we made in May 2014, the Office of the Secretary of Defense and the services took a number of actions to develop a project plan and milestones for completing DOD's screening-level climate change vulnerability assessment. GAO-14-446.

2015, the federal government has some capacity to address the federal fiscal exposure to climate change. However, across its actions and strategies, the federal government has yet to clearly define the roles, responsibilities, and working relationships among federal, state, local, and private-sector entities, or how these efforts will be funded, staffed, and sustained over time. The federal government has taken further action by establishing a monitoring mechanism to review certain federal agencies' efforts to reduce some aspects of their fiscal exposure to climate change, such as building efficiency. However, it is too early to determine the new mechanism's effectiveness at demonstrating progress in implementing corrective measures, or whether the federal government will apply a similar mechanism across all areas of federal fiscal exposure to climate change.

What Remains to Be Done

The federal government needs a cohesive strategic approach with strong leadership and the authority to manage climate change risks that encompasses the entire range of related federal activities and addresses all key elements of strategic planning. Such an approach includes implementing our May 2011 recommendation to establish federal strategic climate change priorities and develop roles, responsibilities, and working relationships among federal, state, and local entities.[10]

The federal government has had many climate-related strategic planning activities that demonstrated leadership commitment, such as the President's June 2013 Climate Action Plan and the March 2015 E.O.13693 Planning for Federal Sustainability in the Next Decade. However, it was unclear how the various planning efforts related to each other or whether they amounted to a government-wide approach for reducing federal fiscal exposures. Accordingly, leadership commitment needs to be enhanced, with increased focus on developing a cohesive strategy to reduce fiscal exposure across the full range of related federal activities. Further, the federal government will need to focus on implementing this strategy—by developing measurable goals; identifying the roles, responsibilities, and working relationships among federal, state, and local entities; identifying how such efforts will be funded and staffed over time; and establishing mechanisms to track and monitor progress.

[10]GAO, *Climate Change: Improvements Needed to Clarify National Priorities and Better Align Them with Federal Funding Decisions*, GAO-11-317 (Washington, D.C.: May 20, 2011).

In addition to addressing these broad strategic challenges, there are specific areas that require attention including the following:

- **Federal property and resources:** This involves federal agencies' consistently implementing (1) the January 2015 E.O. 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input, which requires all future federal investments in, and affecting, floodplains to meet a certain elevation level, as established by the standard;[11] (2) the Council on Environmental Quality's (CEQ) final guidance for considering climate change in agencies' National Environmental Policy Act of 1969 (NEPA) implementation; (3) the Office of Management and Budget's (OMB) Circular A-11—government-wide guidance to agencies for developing their annual budgets—which directed agencies to include funds for resilience in construction and renovation of federal facilities in agency fiscal year 2017 and 2018 budget requests; and (4) actions to achieve the government-wide goals for improving the climate resilience of federal facilities established by E.O. 13693.
- **Federal flood and crop insurance programs:** This entails building climate resilience into the requirements for federal crop and flood insurance programs. Although the Federal Emergency Management Agency (FEMA) has plans to provide updated hazard products and tools that incorporate climate science on an advisory basis, and the U.S. Department of Agriculture (USDA) provides information on voluntary resilience-building actions for producers—policyholders are not required to use the information to improve their resilience and reduce federal fiscal exposure. As such, the federal government needs to address our October 2014 recommendations to incorporate, as appropriate, forward-looking standards into required minimum flood elevation standards for insured properties and long-term agricultural resilience into the allowable agricultural practices required for crop insurance by the federal government.[12]
- **Technical assistance to federal, state, local, and private-sector decision makers:** This involves the Executive Office of the President (EOP) helping federal, state, local, and private sector decision makers

[11]GAO, *Hurricane Sandy: An Investment Strategy Could Help the Federal Government Enhance National Resilience for Future Disasters*, GAO-15-515 (Washington, D.C.: July 30, 2015). The Consolidated Appropriation Act for fiscal year 2016 prohibited the use of appropriated funds to implement several aspects of E. O. 13690, but the prohibition does not apply during fiscal year 2017.

[12]GAO-15-28.

access and use the best available climate information by designating a federal entity to (1) develop and periodically update a set of authoritative climate observations and projections for use in federal decision making, which state, local, and private sector decision makers could also access to obtain the best available climate information; and (2) create a national climate information system with defined roles for federal agencies and nonfederal entities, such as academic institutions, with existing statutory authority. Additionally, to assist standards-developing organizations incorporate forward-looking climate information into building codes and other standards, we recommended in November 2016 that the Secretary of Commerce should direct the National Institute of Standards and Technology (NIST) to convene federal agencies for an ongoing effort to provide the best available forward-looking climate information to these standards-developing organizations.[13]

- **Disaster aid**: This involves implementing adequate budgeting and forecasting procedures to account for the costs of disasters. Additionally, the federal government has not yet defined the resources and government-wide structure to implement existing plans for reducing the federal fiscal exposure to disaster relief by improving resilience—with clear roles, responsibilities, and working relationships among federal, state, local, and private-sector entities.

Recognizing that each department and agency operates under its own authorities and responsibilities—and can therefore be expected to address climate change in different ways relevant to its own mission—federal efforts have encouraged a decentralized approach, with federal agencies incorporating climate-related information into their planning, operations, policies, and programs. While individual agency actions are necessary, a centralized national strategy driven by a government-wide plan is also needed to reduce the federal fiscal exposure to climate change, maximize investments, achieve efficiencies, and better position the government for success. Even then, such approaches will not be sufficient unless also coordinated with state, local, and private-sector decisions that drive much of the federal government's fiscal exposure. The challenge is to develop a cohesive approach at the federal level that also informs state, local, and private-sector action.

[13]GAO, *Climate Change: Improved Federal Coordination Could Facilitate Use of Forward-Looking Climate Information in Design Standards, Building Codes, and Certification,* GAO-17-3 (Washington, D.C.: Nov. 30, 2016).

The interagency Council on Climate Preparedness and Resilience (Resilience Council) established by E.O. 13653 recommended many of the same actions to future administrations in its October 2016 report Opportunities to Enhance the Nation's Resilience to Climate Change. Among other actions, the Resilience Council called on the federal government to strengthen resilience coordination across federal agencies and increase the capacity for climate resilience efforts government-wide, expand incentives and requirements to increase resilience of infrastructure and buildings, improve awareness and dissemination of climate information, and enhance the usability of climate tools for decision making. Importantly, the Resilience Council recognized the need to coordinate resilience among multiple stakeholders—including all levels of government, academic institutions, and the private sector—through partnerships, shared knowledge and resources, and coordinated strategies, and to evaluate government-wide progress and performance of resilience investments. These are key elements of our criteria for removal from the High-Risk List.

Additional Details on What GAO Found

Federal Government as Leader of National Climate Strategic Plan

Source: GAO analysis. | 2017 High Risk List GAO-17-317

For its climate strategic planning efforts, the federal government partially met four of the five criteria—leadership commitment, capacity, action plan, and monitoring—and received a not met rating for the demonstrating progress criterion. The federal government is not well organized to address the fiscal risks to which climate change exposes it, partly because of the inherently complicated, crosscutting nature of the issue. The federal government would be better positioned to respond to the risks posed by climate change if federal efforts were more coordinated and were directed toward common goals.

As we reported in our 2015 update, the federal government had partially met our leadership commitment, capacity, and action plan criteria through several climate-related strategic planning activities, such as the President's June 2013 Climate Action Plan and agency adaptation plans, but it was unclear how the various planning efforts related to each other

or what they amount to as a government-wide approach for reducing federal fiscal exposures. Additionally, existing planning activities partially met our capacity criterion because they did not clearly define the roles and responsibilities among federal, state, and local entities, or the resources needed to implement these plans. Furthermore, we reported that the federal government had not met our monitoring and demonstrated progress criteria because there were no programs to monitor the effectiveness of strategic planning efforts.

Since our 2015 update, the March 2015 E.O. 13693 Planning for Federal Sustainability in the Next Decade directs certain agencies to develop and annually update agency strategic sustainability performance plans, which, among other things, evaluate their past performance in achieving certain government-wide sustainability performance goals—including reducing greenhouse gas emissions and incorporating climate-resilient design elements into the operation and renovation of existing agency buildings and the design of new buildings.[14] E.O. 13693 also directs specified federal agencies to convene regional interagency working groups to, among other things, address resilience planning in coordination with state, local, and tribal communities. Additionally, in April 2016, CEQ and OMB issued a joint memo that expands their annual review of agency adaptation plans, to include agency self-assessments and annual, in-person discussions with OMB and CEQ to evaluate certain agencies' progress implementing their adaptation plans. Furthermore, the October 2016 report Opportunities to Enhance the Nation's Resilience to Climate Change from the interagency Resilience Council identified a set of key opportunities to guide sustained and coordinated action among federal agencies and invited stakeholders to work with these agencies on a shared climate resilience agenda.

For its strategic planning efforts, the federal government's ratings are as follows.

Leadership Commitment

The federal government has partially met this criterion and has taken additional steps since our last high-risk update. Specifically, E.O. 13693 continues to demonstrate leadership commitment by establishing a government-wide approach and long-term goals for reducing some

[14]More information on E.O. 13693 *Planning for Federal Sustainability in the Next Decade* can be found here.

aspects of federal fiscal exposure to climate change. Further, the October 2016 Resilience Council report identified key opportunities to guide sustained and coordinated action among federal agencies and invited stakeholders to advance a shared climate resilience agenda. However, the EOP has yet to implement our May 2011 recommendation to clearly establish federal strategic climate change priorities that take into consideration the full range of climate-related activities within the federal government.[15] Additionally, because of the potential long-term effects of climate change, leadership needs to be sustained well into the future.

Capacity

The federal government has partially met this criterion and has taken additional steps since our last high-risk update. For example, E.O. 13693 directs the Office of Personnel Management (OPM), in coordination with other agencies, to consider creating a dedicated job classification for sustainability professionals and relevant positions that directly impact the achievement of Federal sustainability goals—which would define this occupation for work at federal agencies and establish official position titles—as well as initiating the inclusion of sustainability and climate preparedness and resilience into federal training—which could increase the federal government's capacity. Additionally, E.O. 13693 directs specified federal agencies to convene regional interagency working groups to, among other things, address resilience planning in coordination with state, local, and tribal communities. Further, the October 2016 Resilience Council report identifies opportunities to enhance capacity within the federal government and in local communities, among others. However, neither the October 2016 Resilience Council report nor the July 2015 E.O. 13693 implementing guidance specifically addresses the roles and responsibilities among federal, state, and local entities. Furthermore, neither the Resilience Council report nor the E.O. 13693 implementing guidance indicates how these efforts will be funded, staffed, and sustained over time.

Action Plan

The federal government has partially met this criterion and has taken additional steps since our last high-risk update. In particular, the implementing guidance for E.O. 13693 directs agencies to annually measure and report their progress on, among other things, reducing

[15]GAO-11-317.

greenhouse gas emissions and incorporating climate-resilient design into new agency buildings in their strategic sustainability performance plans, starting in June 2016. Additionally, the October 2016 Resilience Council report identified key opportunities that future administrations could take to improve climate resilience across three themes: (1) advancing and applying science-based information, technology, and tools to address climate risk; (2) integrating climate resilience into federal agency missions, operations, and culture; and (3) supporting community efforts to enhance climate resilience. However, it is too early to determine how effective agency strategic sustainability performance plans under E.O. 13693 will be at reducing aspects of the federal fiscal exposure to climate change. Moreover, the October 2016 Resilience Council report provides a broad overview of key opportunities to improve climate resilience, but does not require implementation of specific actions to address these opportunities. As a result, it is unclear to what extent the Resilience Council report will help the government substantially complete actions to reduce federal fiscal exposure to climate change across the entire range of related federal activities.

Monitoring

The federal government now partially meets this criterion based on mechanisms established in E.O. 13693 to monitor certain agencies' progress toward reducing aspects of the federal fiscal exposure to climate change, among other goals. E.O. 13693 directs OMB to prepare and publish scorecards evaluating certain agencies' progress implementing their annual strategic sustainability performance plans. In addition, E.O. 13693 directs CEQ, in coordination with OMB, to establish an interagency sustainability steering committee comprised of the agency senior officials responsible for implementing E.O. 13693 to advise OMB and CEQ on agencies' performance of their E.O. responsibilities. Furthermore, the April 2016 joint CEQ and OMB memo established a monitoring mechanism to evaluate agencies' progress on implementing their adaptation plans. However, it is too early to determine the effectiveness of the monitoring mechanisms. Additionally, the federal government has yet to establish a monitoring mechanism that addresses reducing federal fiscal exposure to climate change across the entire range of related federal activities.

Demonstrated Progress

The federal government has not met the criterion for demonstrating progress. Fiscal year 2016 is the first year agencies will include

addressing aspects of fiscal exposure to climate change as part of the annual strategic sustainability performance plan process under E.O. 13693. Therefore, it is too early to determine whether the federal government has demonstrated progress. Additionally, E.O. 13693 does not address reducing federal fiscal exposure to climate change across the entire range of related federal activities, such as federal disaster aid programs.

Federal Government as Property Owner

Source: GAO analysis. | 2017 High Risk List GAO-17-317

For its role as property owner, the federal government partially met four of the five criteria—leadership commitment, capacity, action plan, and monitoring—and received a not met rating for the demonstrating progress criterion. The federal government owns and operates hundreds of thousands of facilities and manages millions of acres of land that could be affected by climate change. For example, DOD oversees more than 555,000 defense facilities and 28 million acres of land, with a replacement value DOD estimates at close to $850 billion.[16] Federally funded and

[16]GAO-14-446.

managed energy and water infrastructure, and federally managed land—about 650 million acres—are also vulnerable to changes in the climate, including more frequent and severe droughts and wildfires. For example, in a November 2016 assessment of federal fiscal risks related to climate change, OMB and the Council of Economic Advisers (CEA) reported that 18,000 facilities and structures with a replacement value of about $83 billion were in the 100-year floodplain and susceptible to future changes in flood risk.[17] Further, OMB and CEA reported that annual federal wildland fire suppression expenditures could increase by about $2.3 billion by 2090.

As of our 2015 update, the federal government had partially met the criteria for leadership commitment, capacity, and action plan through various directives for agencies to develop climate change adaptation plans to integrate consideration of climate change into agency operations and missions, but leadership needed to be sustained over time and most agencies had yet to identify specific actions and the resources necessary to implement these plans. Additionally, we reported that the federal government had not met our monitoring and demonstrated progress criteria because there were no programs to monitor the effectiveness and sustainability of agency adaptation plans.[18]

Furthermore, CEQ had yet to implement our April 2013 recommendation to finalize guidance on how agencies can consider the effects of climate change when implementing NEPA, which applies to certain types of federal projects.[19] Moreover, DOD had yet to implement our May 2014 recommendations to develop a plan for completing climate change vulnerability assessments and clarifying how to account for climate change in planning as well as when comparing construction projects for funding.[20]

Since our 2015 update, the federal government has made progress on our April 2013 NEPA recommendation, the May 2014 DOD recommendations, and in other areas. Specifically, in August 2016, CEQ

[17]OMB and CEA's analysis included those federal facilities with precise location data in the Federal Real Property Profile database, which excludes national security facilities—with a replacement value of about $1 trillion.

[18]GAO, *High-Risk Series: An Update*, GAO-15-290 (Washington, D.C.: February 2015).

[19]GAO, *Climate Change: Future Federal Adaptation Efforts Could Better Support Local Infrastructure Decision Makers,* GAO-13-242 (Washington, D.C.: Apr. 12, 2013).

[20]GAO-14-446.

issued final guidance for agencies on how to consider the effects of climate change when implementing NEPA. Also, among other actions responsive to our May 2014 recommendations, DOD issued a January 2016 directive on climate change adaptation and resilience that calls for DOD components to assess and manage climate change risks to build DOD's resilience, when developing plans and implementing procedures.

In addition, the March 2015 E.O.13693 directed certain agencies to develop and annually update agency strategic sustainability performance plans, which, among other things, evaluate past performance toward achieving certain government wide sustainability performance goals—including incorporating climate-resilient design and management elements into the operation, repair, and renovation of existing agency buildings and the design of new agency buildings. Finally, the April 2016 joint CEQ and OMB memo expanded their annual review of agency adaptation plans to include agency self-assessments and annual, in-person discussions with OMB and CEQ to evaluate agencies' progress implementing their adaptation plans.

Further, in July 2015, we reported that the January 2015 E.O. 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input requires all future federal investments in, and affecting, floodplains to meet a certain elevation level, as established by the standard.[21] According to E.O. 13690, implementing the standard will ensure that agencies address current and future flood risk and ensure that projects funded with taxpayer dollars last as long as intended. Furthermore, since June 2015, OMB Circular A-11—government-wide guidance to agencies for developing their annual budgets—has directed agencies to include funding for resilience in construction and renovation of federal facilities in their fiscal year 2017 and 2018 budget requests, although the 2018 budget requests have not been finalized.

For its role as property owner, the federal government's ratings are as follows.

[21]GAO, *Hurricane Sandy: An Investment Strategy Could Help the Federal Government Enhance National Resilience for Future Disasters*, GAO-15-515 (Washington, D.C.: July 30, 2015). The Consolidated Appropriation Act for fiscal year 2016 prohibited the use of appropriated funds to implement several aspects of E. O. 13690, but the prohibition does not apply during fiscal year 2017.

Leadership Commitment

The rating for this criterion remains at partially met, but the federal government has taken additional steps since our 2015 update. E.O. 13693 and E.O.13690 reflect continued leadership commitment by establishing a government-wide approach for reducing fiscal exposure to climate change for federal facilities and federally-funded infrastructure in and affecting floodplains. However, because of the potential long-term effects of climate change, leadership needs to be sustained well into the future.

Capacity

The rating for this criterion remains at partially met, but the federal government has taken additional steps since our 2015 update. Under E.O. 13693 agencies must, where life-cycle cost effective, incorporate climate-resilient design and management elements into agency building operation, renovation, and design of new buildings. Furthermore, OMB's revised Circular A-11 directs agencies to include funding for resilience in construction and renovation of federal facilities in their fiscal year 2017 and 2018 budget requests—although the budget requests for fiscal year 2018 have not been finalized. Moreover, the August 2016 CEQ final guidance for agencies on how to consider climate change when implementing NEPA may increase the consistency with which agencies address climate change in implementing the law. However, it is too early to determine whether these efforts will effectively build the capacity of the federal government to reduce its fiscal exposure as a property owner.

Action Plan

The rating for this criterion remains at partially met but the federal government has taken additional steps since our 2015 update. For example, the guidance for implementing E.O. 13693 directs agencies to identify specific strategies to accomplish sustainability goals and establishes targets and metrics for the goals. Additionally, E.O. 13690 directs agencies to submit implementation plans with milestones and a timeline for their implementation of the Federal Flood Risk Management Standard. Moreover, DOD fully implemented one of our May 2014 recommendations by developing a plan and milestones for completing climate change vulnerability assessments.[22] DOD has also made

[22]GAO-14-446.

progress implementing components of our other recommendations for considering climate change impacts when planning installations and comparing construction projects for funding.[23] However, it is too early to determine whether these plans will effectively reduce federal facilities' fiscal exposure to climate change.

Monitoring

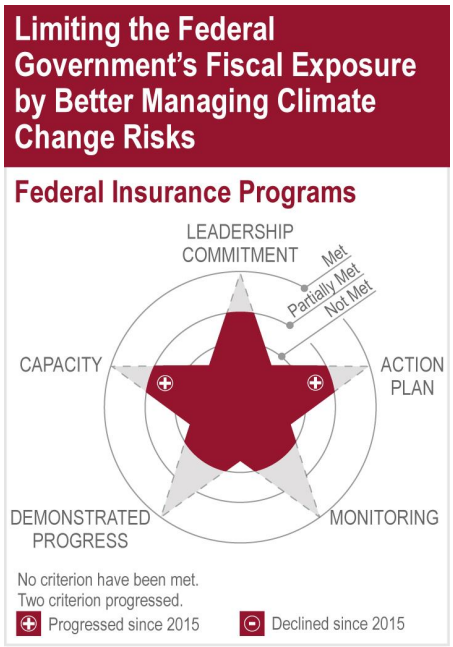
The rating for this criterion was upgraded from not met in our 2015 update to partially met. E.O. 13693 establishes a mechanism for OMB and an interagency steering committee to monitor agency progress toward sustainability goals—which include incorporation of climate-resilient design and management elements into the operation, repair and renovation of existing agency buildings. Additionally, the April 2016 joint CEQ and OMB memo to federal agencies established a monitoring mechanism to evaluate agencies' efforts to implement their adaptation plans as part of their annual reviews of the plans. However, it is too early to determine the effectiveness of these monitoring mechanisms.

Demonstrated Progress

The federal government has not met the criterion for demonstrating progress. Fiscal year 2016 is the first year agencies will include "incorporating climate resilient design and management elements" as a measurable goal within their annual strategic sustainability performance plan under E.O. 13693. In addition, fiscal year 2017 is the first year of agencies' implementation plans for the Federal Flood Risk Management Standard. Therefore, it is too early to determine whether the federal government has demonstrated progress.

[23]For example, DOD produced a report and database that provides regionalized sea level and extreme water level scenarios for three future time horizons (2035, 2065, and 2100) for 1,774 DOD sites worldwide, which DOD intends to be used by planners to account for sea-level rise, one effect of climate change. We have ongoing work examining DOD's activities to adapt its infrastructure for climate change in overseas locations.

Federal Insurance Programs



Source: GAO analysis. | 2017 High Risk List GAO-17-317

As the insurer of crops and property, the federal government partially met three of the five criteria—leadership commitment, capacity, and action plan—and received a not met rating for the monitoring and demonstrating progress criteria. Two important federal insurance efforts— the FEMA National Flood Insurance Program (NFIP) and USDA's Federal Crop Insurance Corporation (FCIC)—face climate change and other challenges that increase federal fiscal exposure and send inaccurate price signals about risk to policyholders. For example, a November 2016 OMB and CEA report found that total annual premium subsidies for crop insurance could increase by about $4.2 billion in 2080 due to the effects of unmitigated climate change.[24]

In our 2015 update, we reported that the federal government had partially met our leadership commitment criterion by commissioning climate change studies and incorporating climate change adaptation into their planning, which recognized climate change risks to federal insurers, but needed to sustain top leadership support and enhance it over time. We

[24]OMB and CEA did not estimate the projected changes in NFIP premiums or payouts under climate change.

also reported that the federal government had not met the other four criteria because federal insurers had yet to identify specific actions and the resources necessary to address challenges inherent to federal insurance programs—such as how to encourage policyholders to reduce their long-term exposure to climate change given the short-term nature of insurance contracts—that may impede the ability of these programs to minimize long-term federal fiscal exposure to climate change.

For example, to promote forward-looking construction and rebuilding efforts for flood insurance, we recommended in October 2014 that the Secretary of the Department of Homeland Security (DHS) direct FEMA to consider amending flood insurance standards to incorporate, as appropriate, forward-looking information.[25] DHS agreed with our recommendation. For crop insurance, we recommended in October 2014 that the Secretary of Agriculture direct the FCIC to consider working with agricultural experts to incorporate resilient agricultural practices into good farming practices—which farmers must follow to have their losses covered—so that these practices take into account long-term resilience to climate change.[26] USDA did not specify its agreement or disagreement with our recommendation.

Since our 2015 update, FEMA and USDA have taken additional actions to understand and respond to climate change risks. For flood insurance, in February 2016, FEMA publicly released the 2015 Future Conditions Risk Assessment and Modeling report by the Technical Mapping Advisory Council (TMAC)—an advisory body created to review the national flood mapping program and make recommendations to FEMA.[27] The report, which was required by law, has several recommendations on how FEMA could incorporate the best-available climate science to assess flood risk and incorporate such information into its advisory hazard products, tools, and information for local decision makers.[28] For crop insurance, in May 2016, USDA publicly issued Building Blocks for Climate Smart Agriculture and Forestry: Implementation Plan and Progress Report for USDA's

[25]GAO-15-28.

[26]GAO-15-28.

[27]Technical Mapping Advisory Council, Future Conditions Risk Assessment and Modeling (Published: December 2015, Publicly Issued: Feb. 8, 2016).

[28]Pub. L. No. 112-141, div. F, tit. II, § 100215(d)(1) (2012) (codified at 42 U.S.C. § 4101a(d)(1)).

framework for helping farmers, ranchers, and forestland owners respond to climate change, through voluntary and incentive-based actions.[29]

For its role as the insurer of crops and property, the federal government's ratings are as follows.

Leadership Commitment

The rating for this criterion remains at partially met but the federal government has taken additional steps since our 2015 update. For flood insurance, the TMAC report identified both short- and long-term recommended actions for FEMA to incorporate climate science into its hazard products and tools for decision makers, and a senior FEMA official has publicly stated that the agency will implement the recommendations.[30] For crop insurance, the USDA's 2016 Building Blocks for Climate Smart Agriculture and Forestry implementation plan continues leadership commitment by establishing long-term goals for reducing agricultural GHG emissions by improving producers' soil health, nitrogen management, and land management practices, among others—practices that may also reduce federal fiscal exposure for insured crops by improving agricultural resilience to climate change. However, because of the potential long-term effects of climate change, leadership needs to be sustained well into the future.

Capacity

The rating for this criterion was upgraded from not met in our 2015 update to partially met. For flood insurance, a senior FEMA official has publicly stated that the agency will engage with stakeholders and partners to implement the recommendations of the TMAC report on incorporating

[29]USDA, *Building Blocks for Climate Smart Agriculture and Forestry*: *Implementation Plan and Progress Report (*May 2016).

[30]Roy Wright, Deputy Associate Administrator, Federal Insurance And Mitigation Administration, Federal Emergency Management Agency, U.S. Department Of Homeland Security, *The National Flood Insurance Program: Reviewing The Recommendations Of The Technical Mapping Advisory Council's 2015 Annual Report,* testimony before the Senate Committee On Banking, Housing, And Urban Affairs, 114th Cong., 2nd sess., September 13, 2016.

climate science into its products and tools for decision makers.[31] Additionally, the agency has begun conducting sea level rise pilot studies and work to identify related research gaps for additional pilot studies, according to the FEMA official. If FEMA implements the TMAC recommendations, it could improve climate change–related decision making capacity at federal, state, and local levels. For crop insurance, through its 2016 implementation plan, USDA has identified lead agencies and potential partnerships with public and private sector organizations to implement certain actions that could also improve agriculture's resilience to climate change. Additionally, the USDA Regional Climate Hubs—which deliver science-based knowledge, practical information, and program support to farmers, ranchers, and forest landowners—may help improve producers' capacity to understand and respond to climate change impacts. However, neither FEMA nor USDA has identified the resources necessary to implement the actions outlined in the TMAC report or USDA's implementation plan. Additionally FEMA has not identified the roles, responsibilities, and working relationships among federal, state, and local entities for its effort to incorporate climate science into its products and tools.

Action Plan

The rating for this criterion was upgraded from not met in our 2015 update to partially met. In 2016, both FEMA and USDA have identified specific actions to address aspects of climate change in federal insurance programs and have made these actions publicly available. In particular, for flood insurance, the publicly available TMAC report identified short- and long-term actions to incorporate climate change science into its products and tools for decision makers. However, FEMA has yet to establish milestones and metrics for implementing the recommendations—although a senior FEMA official stated that the agency plans to do so. For crop insurance, in its 2016 publicly available report, USDA has developed clear milestones and metrics to assess its progress implementing certain actions that could also improve agricultural resilience to climate change. However, neither federal insurance program has taken action to implement our October 2014 recommendations to

[31]Roy Wright, Deputy Associate Administrator, Federal Insurance And Mitigation Administration, Federal Emergency Management Agency, U.S. Department Of Homeland Security, *The National Flood Insurance Program: Reviewing The Recommendations Of The Technical Mapping Advisory Council's 2015 Annual Report,* testimony before the Senate Committee On Banking, Housing, And Urban Affairs, 114th Cong., 2nd sess., September 13, 2016.

improve the long-term resiliency of insured structures and crops—through changes to flood insurance standards or allowable growing practices for crop insurance.

Monitoring

The rating for this criterion remains at not met, but the federal government has taken some steps since our 2015 update. For crop insurance, USDA established milestones for certain actions from 2016 to 2018 in its 2016 implementation plan, and the plan indicates that USDA is developing a framework to estimate the adoption of conservation practices and technologies. However, it is unclear from the plan what mechanisms are in place for USDA to assess its overall progress toward the department-wide goals, or the frequency of assessment. For flood insurance, FEMA has yet to establish metrics and milestones within an action plan to monitor its progress implementing the TMAC recommendations for addressing climate change in flood insurance.

Demonstrated Progress

The federal government has not met the criterion for demonstrating progress. Without clear monitoring mechanisms for FEMA and USDA to assess their overall progress addressing aspects of climate change in federal insurance programs, it is unclear how either agency will be able to demonstrate progress. Additionally, FEMA has indicated that—consistent with the TMAC recommendations—it should provide its updated hazard products and tools that incorporate climate science on an advisory—not regulatory—basis. USDA has also framed its resilience-building actions for producers as voluntary. As a result, it is unclear to what extent policyholders in either federal insurance program will use the information provided to improve their resilience and reduce federal fiscal exposure.

Technical Assistance to Federal, State, Local, and Private-Sector Decision Makers

Source: GAO analysis. | 2017 High Risk List GAO-17-317

As the provider of technical assistance, the federal government partially met two of the five criteria—leadership commitment and action plan—and received a not met rating for the capacity, monitoring, and demonstrating progress criteria. Climate change has the potential to directly affect a wide range of federal services, operations, programs, and assets, as well as national security, increasing federal fiscal exposure in many ways. State, local, and private-sector decision makers can also drive federal climate-related fiscal exposures because they are responsible for planning, constructing, and maintaining certain types of vulnerable infrastructure paid for with federal funds, insured by federal programs, or eligible for federal disaster assistance. To reduce fiscal exposure, the federal government has a role to play in providing information to these

decision makers so they can make more informed choices about how to manage the risks posed by climate change.[32]

As reported in our 2015 update, the federal government had partially met our leadership commitment and action plan criteria through various strategic plans and E.O.s that directed certain federal agencies to work together to provide authoritative and readily accessible climate-related information, but the roles, responsibilities, and working relationships among federal, state, local, and private-sector entities were still unclear. We also reported that the federal government had not met our criteria for capacity, monitoring, and demonstrated progress because the resources and government-wide structure necessary to implement plans were not yet defined, and that because no monitoring programs existed, the ability to demonstrate progress was limited.

Furthermore, we reported that despite existing efforts, the climate information needs of federal, state, local, and private section decision makers were not being fully met, in part because federal climate information was fragmented across individual agencies that used the information in different ways to meet their missions. We also reported that we had made multiple recommendations to the EOP to address these issues, such as developing an information exchange for ocean acidification information as required by law, and directing a federal entity to identify the best available climate-related information for state and local infrastructure planning.[33]

Since our 2015 update, we have completed work related to federal climate-related technical assistance across several areas—including federal supply chain climate risk; government-wide options to provide climate information to federal, state, local, and private sector decision makers; fisheries management; and private sector use of climate information in design standards and building codes—and found that although the federal government had taken some steps, additional efforts are needed to address the High-Risk List criteria. As a result, the federal

[32]For example, in its November 2016 assessment of federal fiscal risks related to climate change, OMB and CEA found that additional work is necessary to provide more specific and actionable information—such as specific risks and tradeoffs facing decision makers as they evaluate policy options and long-term investments and divestments.

[33]GAO, *Ocean Acidification: Federal Response Under Way, but Actions Needed to Understand and Address Potential Impacts*, GAO-14-736 (Washington, D.C.: Sept. 12, 2014); and GAO-13-242.

government's ratings for the High-Risk List criteria under technical assistance have not changed.

Specifically, we reported, in October 2015, that some climate information relevant to federal supply chain risks may not be available to federal agencies, and that these agencies may not have the capacity to assess their supply chain risks.[34] In November 2015, we reported on federal efforts to provide climate information and found that they could be improved by incorporating key elements—such as a focused organization, authoritative data, and technical assistance to help decision makers use the climate information. We also reported that a key federal role in a national climate information system would be to provide authoritative data and quality assurance guidelines for how to use it, and a nonfederal entity would be better positioned to provide technical assistance and facilitate connections between decision makers and those with relevant expertise.[35] In September 2016, we reported on climate-related federal fisheries management and found that federal and regional management entities had general information on potential effects from climate change, but had limited information on the magnitude and timing of such effects for specific fish stocks.[36] Lastly, in November 2016, we reported on the use of climate information in design standards and building codes and found that standards-developing organizations such as professional engineering societies generally use historical data to develop standards and face institutional and technical challenges to using forward-looking climate information, including difficulty identifying the best available climate information. We found that government-wide coordination to help address these challenges could present a benefit by reducing the federal fiscal exposure to the effects of climate change.[37]

For its efforts to provide technical assistance, the federal government's ratings are as follows.

[34]GAO, *Federal Supply Chains: Opportunities to Improve the Management of Climate-Related Risks,* GAO-16-32 (Washington, D.C.: Oct. 13, 2015).

[35]GAO, *Climate Information: A National System Could Help Federal, State, Local, and Private Sector Decision Makers Use Climate Information*, GAO-16-37 (Washington, D.C.: Nov. 23, 2015).

[36]GAO, *Federal Fisheries Management: Additional Actions Could Advance Efforts to Incorporate Climate Information into Management Decisions*, GAO-16-827 (Washington, D.C.: Sep. 28, 2016).

[37]GAO-17-3.

Leadership Commitment

The rating for this criterion remains at partially met. Top leadership support for providing climate-related technical assistance has continued since 2009 through various E.O.s and planning documents, such as the President's June 2013 Climate Action Plan, the U.S. Global Change Research Program's 2012-2021 strategic plan for climate change science, and, more recently, the October 2016 Resilience Council report. However, because of the potential long-term effects of climate change, leadership needs to be sustained well into the future.

Capacity

The rating for this criterion remains at not met. Specifically, the resources and government-wide structure to implement existing plans for providing technical assistance—with clear roles, responsibilities, and working relationships among federal, state, local, and private-sector entities—are not yet defined. Furthermore, climate information remains fragmented across individual agencies and efforts.[38] We have made multiple recommendations to the EOP to address these issues; however, the EOP has yet to make progress implementing them. More recently, we recommended, in November 2015, that the EOP direct a federal entity to create a national climate information system with defined roles for federal agencies and nonfederal entities with existing statutory authority. The EOP did not agree or disagree with this recommendation.

We also recently recommended that the EOP and other agencies provide guidance to help federal agencies and others use climate information. Specifically, in October 2015, we recommended that, within the EOP, the CEQ clarify the guidance to federal agencies on developing adaptation plans, to better assist agencies to include climate-related risks to their supply chains in their plans.[39] CEQ agreed with this recommendation and implemented it in April 2016 by issuing a joint memo with OMB which, among other things, clarified the guidance to federal agencies for the November 2013 E.O. 13653 on Preparing the United States for the Impacts of Climate Change. Specifically, the joint memo directs agencies to include climate-related risks to supply chains in agency adaptation

[38]For example, we reported in November 2015 that entities within the EOP, such as CEQ and OSTP, had led multiple government-wide climate information efforts, such as the Climate Resilience Toolkit, the Climate Data Initiative, and USGCRP's May 2014 Third National Climate Assessment, among other federal efforts. GAO-16-37.

[39]GAO-16-32.

plans. In September 2016, we recommended that the Secretary of Commerce direct the National Marine Fisheries Service to develop guidance on how fisheries managers should incorporate climate information into different parts of the fisheries management process, such as fish stock assessments.[40] Commerce agreed with this recommendation, but has yet to implement it. Lastly, in November 2016, we reported on using climate information in design standards and building codes. We found that standards-developing organizations, such as professional engineering societies, do not generally use forward-looking climate information and that they face institutional and technical challenges to doing so, including difficulty identifying the best available climate information. We also found that government-wide coordination to help address these challenges could present a benefit by reducing the federal fiscal exposure to the effects of climate change, and recommended that the Department of Commerce's NIST convene federal agencies for an ongoing effort to provide the best available forward-looking climate information to standards-developing organizations. The Department of Commerce neither agreed nor disagreed with our recommendation. Implementing these recommendations would improve the federal government's capacity as a provider of technical assistance.

Action Plan

The rating for this criterion remains at partially met. As we reported in our 2015 update, the federal government has taken some steps to develop an action plan related to technical assistance—through various strategic plans and an E.O. that directed certain federal agencies to work together to develop and provide authoritative, easily accessible and useable information on climate preparedness and resilience.[41] Additionally, the October 2016 Resilience Council report identified several opportunities to improve aspects of federal technical assistance government-wide, such as making climate tools easier for decision makers to use. However, existing plans and reports do not amount to a government-wide plan with clear milestones and metrics to address the challenges we've identified related to the federal government's role in providing climate-related technical assistance, and government and private sector decision makers accessing and using such information.

[40]GAO-16-827.

[41]The President's June 2013 Climate Action Plan and the U.S. Global Change Research Program's 2012 -2021 strategic plan recognize the importance of providing and translating climate information for decision makers. In addition, see section 4(a) of E. O. 13653 on *Preparing the United States for the Impacts of Climate Change.*

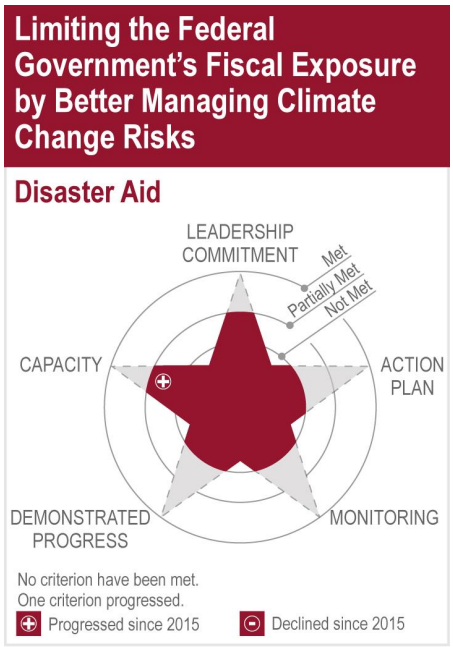
Monitoring

The rating for this criterion remains at not met. The April 2016 joint memo by CEQ and OMB clarifies the process to monitor progress for certain agencies on several areas, including technical assistance. However, there are still no programs or mechanisms to monitor government-wide progress in addressing the challenges we've identified related to the federal government's role in providing climate-related technical assistance. These challenges include clarifying the roles, responsibilities, and working relationships among federal, state, local, and private-sector entities; identifying the necessary resources and establishing the government-wide structure necessary to implement plans; and addressing the fragmentation of federal climate information across individual agencies that use the information in different ways to meet their missions.

Demonstrated Progress

The rating for this criterion remains at not met. Without a program or mechanism to monitor government-wide action addressing relevant challenges, it is unclear how the federal government can demonstrate progress.

Disaster Aid and Resilience



Source: GAO analysis. | 2017 High Risk List GAO-17-317

As the provider of disaster aid, the federal government partially met two of the five criteria—leadership commitment, and capacity—and received a not met rating for the action plan, monitoring, and demonstrating progress criteria. Multiple factors, including increased disaster declarations, climate change effects, and changing development patterns increase federal fiscal exposure to severe weather events, which have cost the nation hundreds of billions of dollars over the past decade. For example, from fiscal years 2005 through 2014, the federal government obligated at least $277.6 billion across 17 federal department and agencies for disaster assistance programs and activities.[42] Such federal disaster aid functions as the insurance of last resort in certain circumstances because whatever is not covered by insurance or built to be resilient to extreme weather increases the federal government's implicit fiscal exposure through disaster relief programs. For example, a November 2016 OMB and CEA report found that total annual expected disaster relief for hurricane damage could increase by about $50 billion by 2075.

[42]GAO, *Federal Disaster Assistance: Federal Departments and Agencies Obligated at Least $277.6 Billion during Fiscal Years 2005 through 2014*, GAO-16-797 (Washington, D.C.: Sept. 22, 2016).

In our 2015 update, we reported that the federal government had partially met our leadership commitment criterion through the federal response to Superstorm Sandy, and other strategic planning documents that demonstrate top leadership support for increasing resilience and reducing fiscal exposures posed by climate change. Additionally, we reported that the federal government planned to take additional actions, such as issuing a federal flood risk reduction standard and updating guidance to direct states to incorporate climate change into their hazard mitigation plans, as a condition for receiving disaster relief. However, we also reported that the federal government had not met our criteria for capacity, action plan, monitoring, and demonstrated progress because there is no government-wide corrective action plan that defines clear roles and responsibilities to address federal fiscal exposure, and no programs to monitor the effectiveness of the measures identified in the existing strategies and plans. We also reported that federal disaster aid programs—such as FEMA's Disaster Relief Fund—have been primarily funded through supplemental appropriations, and the federal government did not budget for these costs. Furthermore, without adequate budgeting and forecasting to account for these events, the federal government runs the risk of facing a large fiscal exposure at any time.[43] Moreover, fiscal constraints would make it more difficult for the federal government to respond effectively in the future and such expenses could affect resources available for other key government programs.

Since our 2015 update, the federal government has made some progress addressing its federal fiscal exposure to disaster relief by improving resilience. Specifically, in our July 2015 report that examined disaster resilience efforts following Hurricane Sandy, we found that the President and Congress had taken multiple steps to enhance the federal government's focus on disaster resilience through E.O.s, presidential policy directives, and enacted legislation.[44] For example, we reported that E.O. 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input

[43]GAO, *Extreme Weather Events: Limiting Federal Fiscal Exposure and Increasing the Nation's Resilience,* GAO-14-364T (Washington, D.C.: Feb. 12, 2014). *Fiscal Exposures: Improving Cost Recognition in the Federal Budget*, GAO-14-28 (Washington, D.C.: Oct. 29, 2013); and *Budget Issues: Budgeting for Federal Insurance Programs*, GAO/T-AIMD-98-147 (Washington, D.C.: Apr. 23, 1998).

[44]For example, Congress passed and the President signed the Sandy Recovery Improvement Act of 2013, which authorized several changes to the way FEMA may deliver federal disaster assistance, including expedited procedures for its Hazard Mitigation Grant Program. Pub. L. No. 113-2, div. B, § 1104(a), 127 Stat. 39, 43 (2013).

requires all future federal investments in, and affecting, floodplains to meet a certain elevation level, as established by the standard.[45] Specifically, the standard provides 3 approaches that federal agencies can now use to establish the flood elevation and floodplain for consideration in their decision making: (1) climate-informed science approach, (2) adding 2-3 feet of elevation to the 100-year floodplain, and (3) using the 500-year floodplain.

According to E.O. 13690, implementing the standard will ensure that agencies address current and future flood risk and ensure that projects funded with taxpayer dollars last as long as intended. However, we also reported, in July 2015, that there was no comprehensive, strategic approach to identifying, prioritizing, and implementing investments for disaster resilience, which increases the risk of lower returns on investments or lost opportunities to strengthen critical infrastructure and lifelines—such as communications, energy, transportation, and water management systems.[46] As a result, we recommended that the Mitigation Framework Leadership Group (MitFLG)—an intergovernmental body to help coordinate hazard mitigation efforts of relevant local, state, tribal, and federal organizations—establish an investment strategy to identify, prioritize, and implement federal investments in disaster resilience.[47]

As part of its response to this priority recommendation, FEMA developed a high-level work plan to guide MitFLG's development of a disaster resilience investment strategy. Additionally, in May 2016, MitFLG solicited stakeholder input on its design of a new Federal Mitigation Investment Strategy. According to MitFLG, the strategy will identify, prioritize, and guide federal investments in disaster resilience and hazard mitigation-related activities and include recommendations to the President and Congress on how the nation should prioritize future investments. Additionally, the October 2016 Resilience Council report identified several opportunities to further integrate climate resilience into federal agency missions and improve federal support for communities' resilience-building efforts, such as expanding incentives and requirements to increase the resilience of infrastructure and building communities' capacity for climate resilience efforts.

[45]GAO-15-515. The Consolidated Appropriation Act for fiscal year 2016 prohibited the use of appropriated funds to implement several aspects of E. O. 13690, but the prohibition does not apply during fiscal year 2017.

[46]GAO-15-515.

[47]GAO-15-515.

For its role as the provider of disaster aid, the federal government's ratings are as follows.

Leadership Commitment

The rating for this criterion remains at partially met. Top leadership has sustained support since 2009 through various E.O.s, such as E.O. 13690, and other documents, such as the October 2016 report on opportunities to enhance the nation's resilience. However, because of the potential long-term effects of climate change, leadership needs to be sustained well into the future.

Capacity

The rating for this criterion was upgraded from our 2015 update to partially met. FEMA has taken steps to improve the capacity of the federal government and its nonfederal partners. For example, in response to our 2012 priority recommendation that FEMA implement a methodology that can more comprehensively assess a jurisdiction's capacity for disaster response and recovery without federal assistance, the agency has identified three potential options for determining how a state, territory, or tribal government qualifies for federal disaster assistance. Additionally, in January 2016, FEMA solicited comments on implementing individualized deductibles for states, territories, and Indian tribes to qualify for disaster assistance under its Public Assistance program. FEMA is considering requiring states, territories, and Indian tribes to demonstrate satisfaction of a predetermined level of financial or other commitment before FEMA would provide financial assistance to them through this program. As of October 2016, FEMA was considering comments received on its proposal. Further, in March 2015, FEMA updated its guidance for state hazard mitigation plans to include a summary of the likelihood of future hazard events and changing future conditions, such as climate change, as a condition for receiving certain types of non-emergency disaster assistance. However, the federal government has yet to implement adequate budgeting and forecasting procedures to account for the costs of disasters. Additionally, the federal government has not yet defined the resources and government-wide structure to implement existing plans for reducing the federal fiscal exposure by improving resilience—with clear roles, responsibilities, and working relationships among federal, state, local, and private-sector entities.

Action Plan

The rating for this criterion remains at not met. As we mentioned previously, the federal government has taken steps to develop an action plan for improving resilience through developing the Federal Mitigation Investment Strategy. However, because a draft of this strategy is not yet available, it is too soon to evaluate it as an action plan to address federal fiscal exposure through disaster aid. Additionally, although the October 2016 Resilience Council report identifies several opportunities to improve federal and local climate resilience, it does not meet several action plan characteristics from our high-risk criterion, such as establishing goals and performance measures, developing a plan with clear milestones and metrics, and ensuring there are processes for reporting results, among others. As a result, it is unclear to what extent the October 2016 report will help the government substantially complete actions to reduce federal fiscal exposure to climate change as the provider of disaster aid.

Monitoring

The rating for this criterion remains at not met. The federal government has yet to implement programs or mechanisms to monitor the effectiveness of the measures identified across existing plans and standards.

Demonstrated Progress

The rating for this criterion remains at not met. Without monitoring mechanisms to assess the effectiveness of the measures in existing plans and standards, the federal government cannot demonstrate progress in implementing corrective measures.

Benefits Achieved by Implementing Our Recommendations

- In response to a recommendation we made in May 2014, the Office of the Secretary of Defense (OSD) and the services took a number of actions from September 2014 to July 2015 to develop a project plan and milestones for completing DOD's screening-level climate change vulnerability assessment. OSD also took action to direct the services to develop plans and milestones that describe how they intend to use the data collected through the assessment to support climate change adaptation planning. By implementing our recommendation, OSD and

the services can now inform the department's decision makers about the vulnerabilities of DOD facilities and missions to the potential impacts of climate change. (GAO-14-446)

- In response to a recommendation we made in October 2015, CEQ and OMB issued an April 2016 joint memo on climate adaptation planning that clarified the guidance for E.O. 13653 to include climate-related risks to supply chains in agency adaptation plans, among other things. (GAO-16-32)

GAO Contact

For additional information about this high-risk area, contact Alfredo Gómez Director, Natural Resources and Environment, (202)512-3841 or gomezj@gao.gov.

Related GAO Products

Climate Change: Improved Federal Coordination Could Facilitate Use of Forward-Looking Climate Information in Design Standards, Building Codes, and Certification. GAO-17-3. Washington, D.C.: November 30, 2016.

Federal Fisheries Management: Additional Actions Could Advance Efforts to Incorporate Climate Information into Management Decisions. GAO-16-827. Washington, D.C.: September 28, 2016.

Federal Disaster Assistance: Federal Departments and Agencies Obligated at Least $277.6 Billion during Fiscal Years 2005 through 2014. GAO-16-797. Washington, D.C.: September 22, 2016.

Polar Weather Satellites: NOAA Is Working to Ensure Continuity but Needs to Quickly Address Information Security Weaknesses and Future Program Uncertainties. GAO-16-359. Washington, D.C.: May 17, 2016.

Climate Information: A National System Could Help Federal, State, Local, and Private Sector Decision Makers Use Climate Information. GAO-16-37. Washington, D.C.: December 8, 2015.

Federal Supply Chains: Opportunities to Improve the Management of Climate-Related Risks. GAO-16-32. Washington, D.C.: October 27, 2015.

Hurricane Sandy: An Investment Strategy Could Help the Federal Government Enhance National Resilience for Future Disasters. GAO-15-515. Washington, D.C.: July 30, 2015.

Climate Change: Better Management of Exposure to Potential Future Losses Is Needed for Federal Flood and Crop Insurance. GAO-15-28. Washington, D.C.: November 20, 2014.

Climate Change Adaptation: DOD Can Improve Infrastructure Planning and Processes to Better Account for Potential Impacts, GAO-14-446. Washington, D.C.: May 30, 2014.

Improving the Management of IT Acquisitions and Operations

Why Area Is High Risk

Although the executive branch has undertaken numerous initiatives to better manage the more than $80 billion that is annually invested in information technology (IT), federal IT investments too frequently fail or incur cost overruns and schedule slippages while contributing little to mission-related outcomes. We have previously testified that the federal government has spent billions of dollars on failed IT investments.[1] These investments often suffered from a lack of disciplined and effective management, such as project planning, requirements definition, and program oversight and governance. In many instances, agencies have not consistently applied best practices that are critical to successfully acquiring IT. In this regard, we have identified nine critical factors underlying successful major acquisitions, such as program officials actively engaging with stakeholders and staff having the necessary knowledge and skills.[2]

Nonetheless, agencies continue to have IT projects that perform poorly. Such projects have often used a “big bang” approach—that is, projects are broadly scoped and aim to deliver functionality several years after initiation. According to the Defense Science Board, this approach is often too long, ineffective, and unaccommodating of the rapid evolution of IT. Further, it is inconsistent with Office of Management and Budget (OMB) guidance directing that IT investments deliver functionality in 6-month

[1]GAO, *Information Technology: OMB and Agencies Need to More Effectively Implement Major Initiatives to Save Billions of Dollars,* GAO-13-796T (Washington, D.C.: July 25, 2013).

[2]GAO, *Information Technology: Critical Factors Underlying Successful Major Acquisitions,* GAO-12-7 (Washington, D.C.: Oct. 21, 2011).

increments.[3] In August 2016, we reported that approximately half of the software projects across selected agencies were following this guidance.[4]

Federal IT projects have also failed due to a lack of oversight and governance. Executive-level governance and oversight across the government has often been ineffective, specifically from chief information officers (CIO). However, we have reported that some CIOs' authority is limited in that not all CIOs have the authority to review and approve the entire agency IT portfolio.[5]

Recognizing the severity of issues related to the government-wide management of IT, in December 2014, Congress enacted IT acquisition reform provisions (commonly referred to as the Federal Information Technology Acquisition Reform Act or FITARA) as part of the Carl Levin and Howard P. 'Buck' McKeon National Defense Authorization Act for Fiscal Year 2015.[6] Among other things, the law requires action to: (1) consolidate federal data centers, (2) enhance transparency and improve risk management, (3) enhance agency CIO authority, (4) review IT investment portfolios, (5) expand training and use of IT acquisition cadres, (6) purchase software government-wide, and (7) maximize the benefit of federal strategic sourcing.

[3]In May 2014, we recommended that OMB require projects to deliver functionality at least every 12 months (instead of every 6 months). This recommendation was based, in part, on OMB staff reporting to us that they did not expect that many investments would meet the 6-month requirement, thus raising questions as to whether a 6-month delivery requirement was an appropriate government-wide goal. While OMB disagreed with our recommendation, we continue to believe that delivering functionality every 6 months is not an appropriate requirement for all agencies and that requiring the delivery of functionality every 12 months is a more appropriate initial target. For more information, see GAO, *Information Technology: Agencies Need to Establish and Implement Incremental Development Policies,* GAO-14-361 (Washington, D.C.: May 1, 2014).

[4]GAO, *Information Technology Reform: Agencies Need to Increase Their Use of Incremental Development Practices,* GAO-16-469 (Washington, D.C.: Aug. 16, 2016).

[5]GAO, *Federal Chief Information Officers: Opportunities Exist to Improve Role in Information Technology Management,* GAO-11-634 (Washington, D.C.: Sept. 15, 2011).

[6]Federal Information Technology Acquisition Reform provisions of the Carl Levin and Howard P. 'Buck' McKeon National Defense Authorization Act for Fiscal Year 2015, Pub. L. No. 113-291, div. A, title VIII, subtitle D, 128 Stat. 3292, 3438-3450 (Dec. 19, 2014).

What GAO Found

Source: GAO analysis. | 2017 High Risk List GAO-17-317

OMB and federal agencies' efforts to improve the management of IT acquisitions and operations have resulted in meeting one of the five criteria for removal from our High-Risk List—leadership commitment—and partially meeting the remaining four criteria—capacity, action plan, monitoring, and demonstrated progress. Specifically, OMB, in its leadership role in addressing this high-risk area, has demonstrated its commitment by issuing guidance for agencies implementing FITARA, optimizing federal data centers, and acquiring and managing software licenses.

However, while OMB and agencies have taken initial steps to improve their capacity, establish action plans, increase monitoring, and demonstrate progress in addressing our high-risk area by, for example, implementing 366 (or about 46 percent) of the 803 open recommendations from fiscal years 2010 through 2015 related to IT acquisitions and operations, additional actions are needed. Specifically, agencies need to improve their capacity to successfully manage IT investments by fully implementing the CIO authorities described in FITARA and ensuring that program staff have the necessary knowledge and skills to acquire IT. Further work is also needed to establish action plans to modernize or replace obsolete IT investments. Regarding monitoring of IT investments, agencies need to improve how their CIOs assess investment risk and how they report incremental development status. Finally, additional demonstrated progress is needed by OMB and

agencies to (1) address our open recommendations related to IT acquisitions and operations, (2) deliver functionality every 12 months on major acquisitions, and (3) achieve planned IT portfolio and data center consolidation savings.

What Remains to Be Done

To help address the management of IT investments, OMB and federal agencies should continue to expeditiously implement the requirements of FITARA. While OMB's June 2015 FITARA implementation guidance[7] provides a solid foundation for implementing the law and addresses the actions agencies are to take in regard to several initiatives that we have identified as high risk, OMB will need to provide consistent oversight to ensure that agency actions are completed and the desired results are achieved. Doing so should continue to improve the transparency and management of IT acquisitions and operations, as well as increase the authority of CIOs to provide needed direction and oversight.

Beyond implementing FITARA and OMB's guidance to improve the capacity to address our high-risk area, selected agencies will also need to implement our recent recommendations related to improving their IT workforce planning practices.[8] When fully implemented, these key practices should better position agencies to efficiently make decisions that cross lines of expertise and improve their ability to assess and address gaps in knowledge and skills that are critical to the success of major IT acquisitions.

Further, agencies will need to establish action plans to modernize or replace obsolete IT investments.[9] By establishing such plans, agencies can reduce the risk of continuing to maintain investments that have outlived their effectiveness and are consuming resources that outweigh their benefits.

[7]OMB, *Management and Oversight of Federal Information Technology*, Memorandum M-15-14 (Washington, D.C.: June 10, 2015).

[8]GAO, *IT Workforce: Key Practices Help Ensure Strong Integrated Program Teams; Selected Departments Need to Assess Skill Gaps,* GAO-17-8 (Washington, D.C.: Nov. 30, 2016).

[9]GAO, *Information Technology: Federal Agencies Need to Address Aging Legacy Systems,* GAO-16-468 (Washington, D.C.: May 25, 2016).

To improve how they monitor the acquisition and operations of IT investments, federal agencies will need to implement our recommendations to address weaknesses in their reporting of investment risk and incremental development implementation on the IT Dashboard.[10] Doing so will provide OMB and agencies with increased transparency and oversight of the government's billions of dollars in IT investments.

Finally, initial progress has been made in addressing this high-risk area, including implementation of 46 percent of our prior recommendations. However, the remaining recommendations include 17 priority recommendations to agencies to, among other things, report all data center consolidation cost savings to OMB, address weaknesses in their management of software licenses, and improve their implementation of PortfolioStat.[11] OMB and agencies need to take additional actions to (1) implement at least 80 percent of our recommendations related to the management of IT acquisitions and operations, (2) ensure that a minimum of 80 percent of the government's major acquisitions deliver functionality every 12 months, and (3) achieve at least 80 percent of the over $6 billion in planned PortfolioStat savings and 80 percent of the more than $5 billion in savings planned for data center consolidation. It will be important for OMB and agencies to continue to make demonstrated progress against these metrics in order to more effectively and efficiently invest in IT, reduce the risk of major acquisitions, and achieve additional cost savings.

Additional Details on What GAO Found

Leadership Commitment

OMB and the Federal CIO have demonstrated leadership commitment. Specifically, OMB's June 2015 guidance for implementing FITARA addresses actions for agencies to take in several IT management areas we have identified as high risk, such as reviewing of poorly performing investments, reporting on investment risk, consolidating data centers, managing agencies' IT portfolios, and purchasing government-wide

[10]GAO-16-469 and GAO, *IT Dashboard: Agencies Need to Fully Consider Risks When Rating Their Major Investments,* GAO-16-494 (Washington, D.C.: June 2, 2016).

[11]Launched by OMB in 2012, PortfolioStat requires agencies to conduct an annual, agency-wide IT portfolio review to, among other things, reduce commodity IT spending and demonstrate how their IT investments align with the agency's mission and business functions.

software licenses. For example, OMB's guidance reiterates the requirement for agencies to hold TechStat sessions—face-to-face meetings between OMB and agency leadership to terminate or turn around IT investments that are failing or are not producing results—and also requires agencies to report quarterly on the root causes of performance issues, to develop corrective action plans, and to establish a timeline for implementing the corrective actions.

OMB also released more specific guidance on acquiring and managing software licenses and operating federal data centers—two areas that we identified in our 2015 high-risk report as needing attention. Specifically, in June 2016, OMB issued guidance that requires agencies to maintain and analyze an agency-wide inventory of software licenses to ensure compliance with software licensing agreements, consolidate redundant applications, and identify other cost savings opportunities.[12] Regarding federal data centers, in August 2016, OMB issued a memorandum that established the Data Center Optimization Initiative, noting that this new initiative would supersede the Federal Data Center Consolidation Initiative started in 2010.[13] Among other things, OMB's guidance requires agencies to develop and report on data center strategies to consolidate inefficient infrastructure, optimize existing facilities, improve security posture, save money, and transition to more efficient infrastructure. OMB's memorandum also establishes metrics for data center optimization and targets to be achieved by the end of fiscal year 2018.

In addition, the Federal CIO and OMB senior staff members have routinely met with us over the last 2 years to discuss their plans and progress in addressing this high-risk area. According to these officials, and as indicated through its actions, OMB is committed to demonstrating sustained progress in addressing this high-risk area. Going forward, it will be important for OMB to maintain its current level of top leadership support and commitment to ensure that agencies continue to successfully execute OMB's guidance on implementing FITARA and related IT initiatives.

[12]OMB, *Category Management Policy 16-1: Improving the Acquisition and Management of Common Information Technology: Software Licensing*, Memorandum M-16-12 (Washington, D.C.: June 2, 2016).

[13]OMB, *Data Center Optimization Initiative (DCOI),* Memorandum M-16-19 (Washington, D.C.: Aug. 1, 2016).

Capacity

OMB and federal agencies partially met the criterion for having the capacity to improve the management of IT acquisitions and operations. Specifically, OMB's June 2015 guidance addresses how agencies are to implement FITARA's provisions related to enhancing the authority of federal CIOs. Among other things, OMB provided direction on

- enabling the CIOs' role to integrate IT with the capabilities they support wherever IT may affect functions, missions, or operations;
- strengthening agency CIOs' accountability for IT cost, schedule, performance, and security; and
- strengthening the relationship between agency CIOs and bureau CIOs.

Further, OMB's guidance includes several actions that agencies are to take to establish a basic set of roles and responsibilities (referred to as the "common baseline") for CIOs and other senior agency officials that are needed to implement the authorities described in the law. For example, agencies are to conduct a self-assessment to identify where they conform to the common baseline and where they deviate. OMB guidance also requires agencies to annually update their self-assessment and report their progress reaching FITARA implementation milestones. Agencies' first updates were due by April 30, 2016, and additional updates are due on an annual basis thereafter. As of December 2016, 19 of 24 major federal agencies had made their FITARA milestone status information publicly available, as required by OMB; however, all 19 agencies had milestones that were still in progress or not yet started.

In addition, another area where agencies can improve their capacity to acquire IT investments is in assessing IT workforce skills gaps. Specifically, in November 2016, we reported that five selected agencies[14] had not consistently applied key workforce planning steps and activities that help to ensure that program staff members have the knowledge and skills critical to successfully acquire IT investments.[15] For example, four agencies had not demonstrated an established IT workforce planning process. The weaknesses identified were due, in part, to agencies lacking comprehensive policies that required such activities, or failing to apply the

[14]These five agencies are the Departments of Commerce, Defense, Health and Human Services, Transportation, and the Treasury.

[15]GAO-17-8.

policies to IT workforce planning. We concluded that, until these weaknesses are addressed, the agencies risk not adequately assessing and addressing gaps in knowledge and skills that are critical to the success of major acquisitions. Accordingly, we recommended that the five selected agencies address the IT workforce planning practices that we identified as having weaknesses.

Action Plan

OMB and federal agencies have partially met the criterion for establishing an action plan to address this high-risk area. In addition to requiring agencies to conduct self-assessments, OMB's June 2015 FITARA implementation guidance required agencies to submit a plan describing the changes they will make to ensure that common baseline responsibilities are implemented. These plans are to address the areas of IT management that we have identified as high risk, such as reviewing poorly performing investments, managing agencies' IT portfolios, and implementing incremental development. For example, according to OMB's June 2015 guidance, agencies' plans are required to define IT processes and policies which ensure that the CIO certifies that IT investments are adequately implementing incremental development.

Agencies were to submit their plans to OMB's Office of E-Government and Information Technology by August 15, 2015, and make portions of the plans publicly available on agency websites no later than 30 days after OMB approval. Approximately 9 months later, in May 2016, we testified that 2 of the 24 major agencies did not have approved FITARA implementation plans that were publicly available. [16] While these two agencies subsequently published their plans, agencies need to more consistently meet OMB's FITARA implementation deadlines going forward. Further, effectively implementing these plans will be critical to ensuring that agencies are able to effectively manage their IT investments and that CIOs have the authorities required under FITARA. We have ongoing work reviewing agency self-assessments and FITARA implementation plans, including the extent to which agencies have defined the role of the CIO in accordance with federal law and guidance.

Significant work also remains for federal agencies to establish action plans to modernize or replace obsolete IT investments. Specifically, in

[16]GAO, *Information Technology: OMB and Agencies Need to Focus Continued Attention on Implementing Reform Law,* GAO-16-672T (Washington, D.C.: May 18, 2016).

May 2016, we reported that many agencies were using systems which had components that were, in some cases, at least 50 years old. [17] For example, we determined that the Department of Defense (DOD) was using 8-inch floppy disks in a legacy system that coordinates the operational functions of the nation's nuclear forces. In addition, the Department of the Treasury was using assembly language code—a computer language initially used in the 1950s and typically tied to the hardware for which it was developed. Table 5 provides examples of legacy systems across the federal government that agencies report are 30 years old or older and use obsolete software or hardware, and identifies those that do not have specific plans with time frames to modernize or replace these investments.

Table 5: Examples of Legacy Investments and Systems

Agency	Investment or system	Description	Agency-reported age	Specific, defined plans for modernization or replacement
Department of the Treasury	Individual Master File	The authoritative data source for individual taxpayers where accounts are updated, taxes are assessed, and refunds are generated. This investment is written in assembly language code—a low-level computer code that is difficult to write and maintain—and operates on an IBM mainframe.	~56	No - The agency has general plans to replace this investment, but there is no firm date associated with the transition.
Department of the Treasury	Business Master File	Retains all tax data pertaining to individual business income taxpayers and reflects a continuously updated and current record of each taxpayer's account. This investment is also written in assembly language code and operates on an IBM mainframe.	~56	No - The agency has general plans to update this system, but there is no time frame established for this transition.
Department of Defense	Strategic Automated Command and Control System	Coordinates the operational functions of the United States' nuclear forces, such as intercontinental ballistic missiles, nuclear bombers, and tanker support aircraft. This system runs on an IBM Series/1 Computer—a 1970s computing system—and uses 8-inch floppy disks.	53	Yes - The agency plans to update its data storage solutions, port expansion processors, portable terminals, and desktop terminals by the end of fiscal year 2017.
Department of Veterans Affairs	Personnel and Accounting Integrated Data	Automates time and attendance for employees, timekeepers, payroll, and supervisors. It is written in Common Business Oriented Language (COBOL)—a programming language developed in the 1950s and 1960s—and runs on an IBM mainframe.	53	Yes - The agency plans to replace it with a project called Human Resources Information System Shared Service Center in 2017.

[17] GAO-16-468.

Agency	Investment or system	Description	Agency-reported age	Specific, defined plans for modernization or replacement
Department of Veterans Affairs	Benefits Delivery Network	Tracks claims filed by veterans for benefits, eligibility, and dates of death. This system is a suite of COBOL mainframe applications.	51	No - The agency has general plans to roll capabilities into another system, but there is no firm time frame associated with this transition.
Department of Justice	Sentry	Provides information regarding security and custody levels, inmate program and work assignments, and other pertinent information about the inmate population. The system uses COBOL and Java programming languages.	35	Yes - The agency planned to update the system through September 2016.
Social Security Administration	Title II Systems	Determines retirement benefits eligibility and amounts. The investment is comprised of 162 subsystems written in COBOL.	31	Yes - The agency has ongoing modernization efforts, including one that is experiencing cost and schedule challenges due to the complexities of the legacy software.

Source: GAO analysis of IT Dashboard data, agency documentation, and interviews.

Note: Age was reported by agencies. Systems and investments may have individual components newer than the reported age.

To address this issue, we recommended that 12 agencies identify and plan to modernize or replace legacy systems, including establishing time frames, activities to be performed, and functions to be replaced or enhanced. [18] Most agencies agreed with our recommendations or had no comment.

Monitoring

OMB and federal agencies have partially met the criterion for monitoring efforts to address this high-risk area. Specifically, OMB took action to improve its use of TechStat sessions, which are intended to increase accountability and transparency and to improve investment performance. We previously reported that the number of TechStats that OMB and selected agencies had performed represented only a small percentage (33 percent) of the number of IT investments with a medium- or high-risk CIO rating. [19] OMB's June 2015 FITARA implementation guidance strengthened the TechStat process by requiring agencies to hold a

[18]These 12 agencies are the Departments of Agriculture, Commerce, Defense, Energy, Health and Human Services, Homeland Security, Justice, State, the Treasury, Transportation, and Veterans Affairs, and the Social Security Administration.

[19]GAO, *Information Technology: Additional Executive Review Sessions Needed to Address Troubled Projects,* GAO-13-524 (Washington, D.C.: June 13, 2013).

TechStat session on any investment that has a high-risk CIO rating for 3 consecutive months, beginning on July 1, 2015. As a result, OMB and agencies will be able to more quickly intervene to turn around, halt, or terminate troubled IT projects.

OMB has also taken action to improve monitoring through its IT Dashboard—a public website that provides detailed information on major IT investments at 26 federal agencies, including ratings from CIOs that should reflect the level of risk facing each investment. Over the last several years, we have issued a series of reports that noted significant steps OMB has taken to enhance the oversight, transparency, and accountability of federal IT investments through the IT Dashboard.[20] For example, OMB analyzed and reported on agencies' Dashboard CIO ratings over time. Further, in an August 2016 memorandum,[21] OMB expanded the data center consolidation and optimization progress information being reported on the IT Dashboard to include, among other things

- information on planned and achieved data center closures by agency,
- government-wide and agency-specific progress towards meeting applicable optimization targets, and
- cumulative cost savings and cost avoidance realized.

OMB's efforts to expand the IT Dashboard should continue to increase transparency into government-wide and agency-specific progress on this important IT initiative.

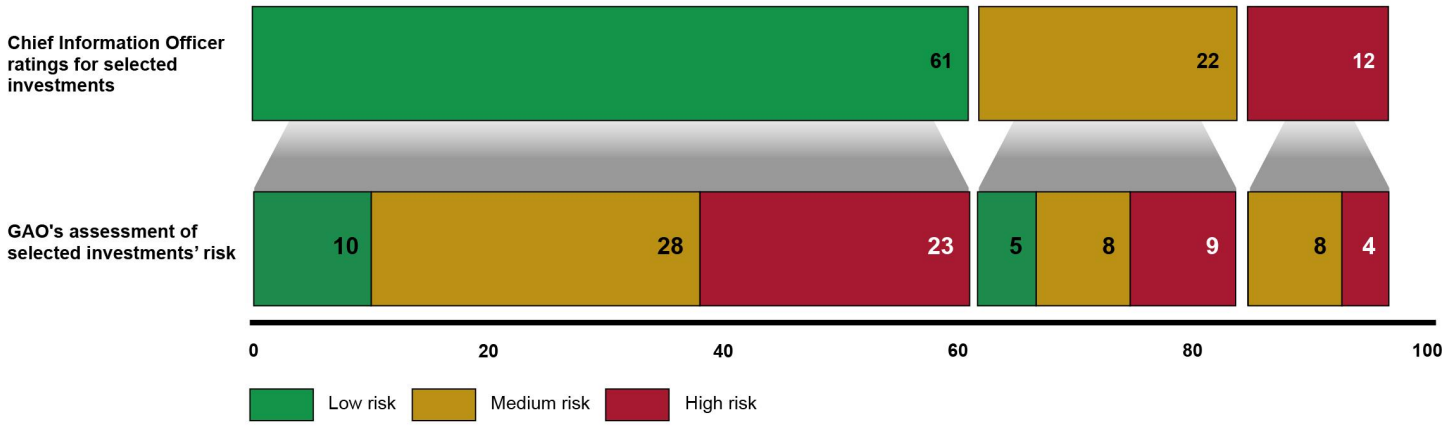
However, significant work still remains for federal agencies to improve their monitoring of IT investments through their CIO risk assessments on the IT Dashboard. Specifically, in June 2016, we reported that our assessments of the risk ratings showed more risk than did the associated

[20]GAO, *IT Dashboard: Agencies Are Managing Investment Risk, but Related Ratings Need to Be More Accurate and Available,* GAO-14-64 (Washington, D.C.: Dec. 12, 2013); *Information Technology Dashboard: Opportunities Exist to Improve Transparency and Oversight of Investment Risk at Select Agencies*, GAO-13-98 (Washington, D.C.: Oct. 16, 2012); *IT Dashboard: Accuracy Has Improved, and Additional Efforts Are Under Way to Better Inform Decision Making,* GAO-12-210 (Washington, D.C.: Nov. 7, 2011); *Information Technology: OMB Has Made Improvements to Its Dashboard, but Further Work Is Needed by Agencies and OMB to Ensure Data Accuracy*, GAO-11-262 (Washington, D.C.: Mar. 15, 2011); and *Information Technology: OMB's Dashboard Has Increased Transparency and Oversight, but Improvements Needed,* GAO-10-701 (Washington, D.C.: July 16, 2010).

[21]OMB, Memorandum M-16-19.

CIO ratings. [22] In particular, of the 95 investments reviewed, our assessments matched the CIO ratings 22 times, showed more risk 60 times, and showed less risk 13 times. Figure 10 summarizes how our assessments compared to the select investments' CIO ratings.

Figure 10: Comparison of Selected Investments' April 2015 CIO Ratings to GAO's Assessments



Source: GAO's assessment of data from the Office of Management and Budget's Information Technology Dashboard. | GAO-17-317

We reported that several issues contributed to these differences, such as ratings not being updated frequently and rating processes that did not focus on active risks. As a result, we concluded that the associated risk rating processes used by the agencies generally understated the level of an investment's risk, raising the likelihood that critical federal investments in IT are not receiving the appropriate levels of oversight. Accordingly, we made 25 recommendations to 15 agencies to improve the quality and frequency of their CIO ratings. Most agencies agreed with our recommendations or had no comment.

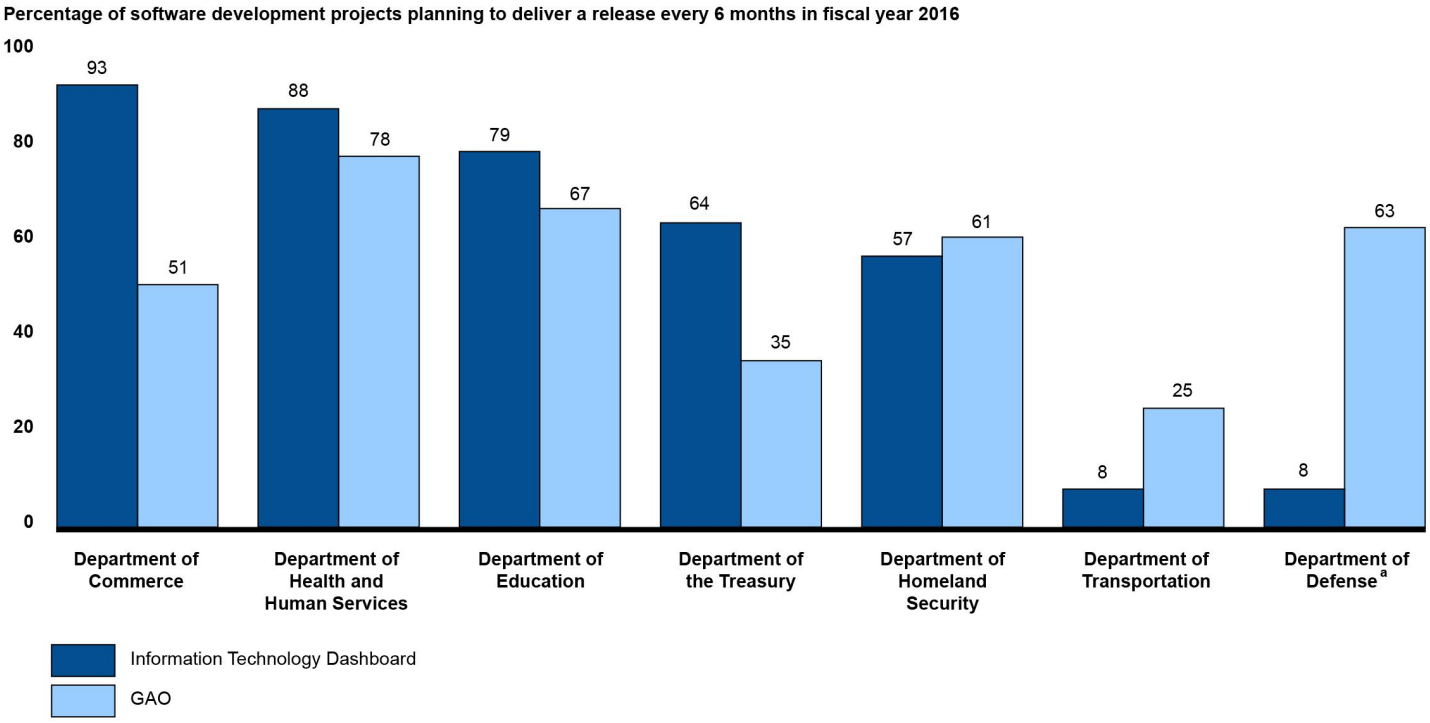
Another area of concern regarding the monitoring of IT acquisitions is agencies' reported use of incremental development. In August 2016, we reported on 7 selected agencies' software development projects and determined that the percentage delivering functionality every 6 months was reported at 45 percent for fiscal year 2015 and planned for 54 percent in fiscal year 2016. [23] However, significant differences existed

[22] GAO-16-494.

[23] GAO-16-469. These seven agencies are the Departments of Commerce, Defense, Education, Health and Human Services, Homeland Security, Transportation, and the Treasury.

between the delivery rates that the agencies reported to us and what they reported on the IT Dashboard. For example, the percentage of software projects delivering every 6 months that was reported to us by the Department of Commerce was about a 42 percentage point decrease from what was reported on the IT Dashboard. In contrast, DOD reported to us a 55 percentage point increase from what was reported on the IT Dashboard. Figure 11 compares what the 7 agencies reported on the IT Dashboard and what numbers they reported to us.

Figure 11: Comparison of Software Development Projects' Percentage of Planned Delivery Every 6 Months Reported on the IT Dashboard and to GAO for Fiscal Year 2016



Source: GAO analysis of department data. | GAO-17-317

[a]The Department of Defense did not provide requested information in time to verify the information reported for a sample of projects.

We reported that the significant differences in delivery rates were due, in part, to agencies having different interpretations of OMB's guidance on reporting software development projects and because the information reported to us was generally more current than the information reported on the IT Dashboard. We concluded that, until the inconsistences in the information reported to us versus the information provided on the IT Dashboard are addressed, the seven agencies we reviewed are at risk

that OMB and key stakeholders may make decisions regarding agency investments without the most current and accurate information. Accordingly, we made 12 recommendations to 8 agencies to improve their reporting of incremental data on the IT Dashboard, among other things. Most agencies agreed with our recommendations or did not comment.

Demonstrated Progress

OMB and federal agencies partially met the criterion for demonstrating progress in improving the management of IT acquisitions and operations. In our 2015 high-risk report, we noted that OMB and agencies would need to demonstrate government-wide progress in the following key areas:

- OMB and agencies should, within 4 years, implement at least 80 percent of our recommendations related to managing IT acquisitions and operations.
- Agencies should ensure that a minimum of 80 percent of the government's major acquisitions deliver functionality every 12 months.
- Agencies should achieve no less than 80 percent of the over $6 billion in planned IT portfolio savings and 80 percent of the more than $5 billion in savings planned for data center consolidation.

Between fiscal years 2010 and 2015, we made 803 recommendations to OMB and federal agencies to address shortcomings in IT acquisitions and operations, including many to improve the implementation of the recent initiatives and other government-wide, cross-cutting efforts. As of December 2016, about 46 percent of these recommendations had been fully implemented. This is an additional 23 percent compared to the percentage we reported in our 2015 high-risk report. For example, in August 2016, the National Aeronautics and Space Administration (NASA) addressed our priority recommendation to report its data center consolidation cost savings and avoidances—totaling approximately $42 million between fiscal years 2012 through 2016—to OMB. In fiscal year 2016, we made 202 new recommendations, thus further reinforcing the need for OMB and agencies to address the shortcomings in IT acquisitions and operations. Table 6 summarizes OMB's and agencies' implementation of our recommendations. Following the table, figure 12 summarizes OMB's and agencies' implementation of our recommendations against the 80 percent target.

Table 6: Status of GAO Recommendations to OMB and Agencies to Address Shortcomings in IT Acquisitions and Operations (Fiscal Years 2010 through 2015), as of December 2016

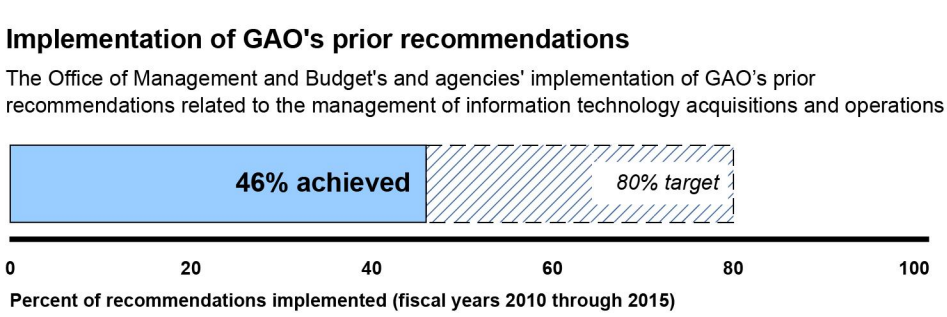
Fiscal year	Open	Closed – implemented	Closed – not implemented[a]	Total
2010	4	66	6	**76**
2011	8	122	16	**146**
2012	22	94	27	**143**
2013	34	18	2	**54**
2014	243	50	1	**294**
2015	74	16	0	**90**
Total	**385 (48%)**	**366 (46%)**	**52 (6%)**	**803**

Source: GAO. | GAO-17-317

Note: We made 202 new recommendations in fiscal year 2016 to address shortcomings in IT acquisitions and operations; however, in order to give OMB and agencies time to address these recommendations, we did not include them in our status assessment.

[a]We close recommendations without agencies having implemented them if (1) the recommendation is no longer valid because circumstances have changed, or (2) significant time has passed and implementation cannot reasonably be expected.

Figure 12: Summary of OMB's and Agencies' Progress in Addressing GAO's Recommendations related to the Management of IT Acquisition and Operations, as of December 2016



Source: GAO. | GAO-17-317

However, additional OMB and agency progress is needed in several areas critical to their ability to effectively and efficiently invest in IT, such as the following:

- **Consolidating federal data centers**. In a series of reports, we pointed out that, while consolidating data centers could potentially save the federal government billions of dollars, weaknesses existed in

the execution and oversight of the initiative.[24] In particular, planned savings may be understated because of difficulties agencies encountered when calculating savings and communicating their estimates to OMB. As a result, it was important for OMB to continue to provide leadership and guidance on this initiative. In total, we made 168 recommendations to OMB and agencies to improve the federal data center consolidation effort. As of December 2016, 123 of our recommendations had been implemented.

- **Developing comprehensive inventories of federal agencies' software licenses**. In May 2014, we reported on federal agencies' management of software licenses and determined that better management was needed to achieve significant savings government-wide. [25] In particular, 22 of the 24 major agencies did not have comprehensive license policies and only 2 had comprehensive license inventories. As a result, agencies' oversight of software license spending was limited or lacking, thus, potentially leading to missed savings. The potential savings could be significant considering that, in fiscal year 2012, 1 major federal agency reported saving approximately $181 million by consolidating its enterprise license agreements, even though its oversight process was ad hoc. We recommended that OMB issue needed guidance to agencies and made 135 recommendations to the agencies to improve their policies and practices for managing licenses. As of December 2016, 13 of our recommendations had been implemented.
- **Managing agencies' IT portfolios.** To better manage existing IT systems, OMB launched the PortfolioStat initiative, which requires agencies to conduct an annual, agency-wide IT portfolio review to, among other things, reduce commodity IT spending and demonstrate how their IT investments align with the agency's mission and business

[24]GAO, *Data Center Consolidation: Agencies Making Progress, but Planned Savings Goals Need to Be Established [Reissued on March 4, 2016],* GAO-16-323 (Washington, D.C.: Mar. 3, 2016); *Data Center Consolidation: Reporting Can Be Improved to Reflect Substantial Planned Savings,* GAO-14-713 (Washington, D.C.: Sept. 25, 2014); *Data Center Consolidation: Strengthened Oversight Needed to Achieve Cost Savings Goal,* GAO-13-378 (Washington, D.C.: Apr. 23, 2013); *Data Center Consolidation: Agencies Making Progress on Efforts, but Inventories and Plans Need to Be Completed,* GAO-12-742 (Washington, D.C.: July 19, 2012); and *Data Center Consolidation: Agencies Need to Complete Inventories and Plans to Achieve Expected Savings,* GAO-11565 (Washington, D.C.: July 19, 2011).

[25]GAO, *Federal Software Licenses: Better Management Needed to Achieve Significant Savings Government-Wide,* GAO-14-413 (Washington, D.C.: May 22, 2014).

functions.[26] In November 2013, we reported that agencies continued to identify duplicative spending as part of PortfolioStat; however, weaknesses existed in agencies' implementation of the initiative, such as limitations in the CIOs' authority.[27] In April 2015, we reported that, although agencies had achieved approximately $1.1 billion in PortfolioStat savings, inconsistencies in OMB's and agencies' reporting made it difficult to reliably measure progress in achieving savings.[28] In total, our 2 reports made 69 recommendations to improve OMB and agencies' implementation of PortfolioStat; and as of December 2016, 7 of our recommendations had been implemented.

In addition, while agencies have made progress on efforts to ensure that the government's major acquisitions deliver functionality every 12 months, additional work is needed. Specifically, in August 2016, we determined[29] that 7 selected agencies[30] reported delivering functionality at least every 12 months on 77 percent of their projects for fiscal year 2015. However, as previously stated, there were also inconsistencies with the selected agencies' reporting of their incremental development status and we made recommendations to the agencies to address these issues. It will be critical for agencies to continue to improve their use of incremental development in order to reduce the risk that their projects will not meet cost, schedule, and performance goals and improve their reporting to better ensure that project decision making is based on current and accurate information.

Finally, agencies have also made progress in achieving planned savings across two OMB initiatives intended to improve the management of operational IT investments. Regarding the $6 billion in planned

[26]According to OMB, commodity IT includes services such as IT infrastructure (data centers, networks, desktop computers, and mobile devices); enterprise IT systems (e-mail, collaboration tools, identity and access management, security, and web infrastructure); and business systems (finance, human resources, and other administrative functions).

[27]GAO, *Information Technology: Additional OMB and Agency Actions Are Needed to Achieve Portfolio Savings,* GAO-14-65 (Washington, D.C.: Nov. 6, 2013).

[28]GAO, *Information Technology: Additional OMB and Agency Actions Are Needed to Ensure Portfolio Savings Are Realized and Effectively Tracked,* GAO-15-296 (Washington, D.C.: Apr. 16, 2015).

[29]GAO-16-469.

[30]These seven agencies are the Departments of Commerce, Defense, Education, Health and Human Services, Homeland Security, Transportation, and the Treasury.

PortfolioStat savings identified in our 2015 high-risk report, agencies reported achieving approximately $1.4 billion in savings from fiscal years 2012 through 2015, or approximately 24 percent of planned PortfolioStat savings. Further, in March 2016, we reported[31] that agencies had achieved an estimated $2.8 billion in cost savings and avoidances related to their data center consolidation efforts from fiscal years 2011 to 2015. This is approximately 51 percent of the $5.3 billion planned savings identified in our 2015 high-risk report.

Benefits Achieved by Implementing Our Recommendations

In July 2016, Congress enacted the MEGABYTE Act of 2016, which contained provisions to improve the management of software licenses.[32] The act requires OMB to direct agency CIOs to, among other things, establish a comprehensive inventory of software license agreements and analyze software usage and other data to make cost-effective decisions.

Other examples of benefits achieved by implementing our recommendations include the following:

- $2.95 billion in total financial savings achieved from multiple agencies' data center consolidation efforts (claimed in fiscal years 2014 through 2016).
- $1.41 billion in total financial savings achieved from multiple agencies' efforts to reduce duplicative and wasteful IT investments as part of OMB's PortfolioStat initiative (claimed in fiscal years 2014 through 2016).
- $520.46 million in financial savings achieved from the Census Bureau implementing IT investment management process that reduced investment in duplicative systems (claimed in fiscal year 2015).
- $24.27 million in total financial savings achieved from NASA's and General Services Administration's efforts to reduce their software license costs (claimed in fiscal years 2015 and 2016).
- OMB and agencies have taken steps to enhance the oversight, transparency, and accountability of federal IT investments through the

[31]GAO-16-323.

[32]Pub. L. No. 114-210, 130 Stat. 824 (2016).

IT Dashboard by, for example, improving the quality of investment performance data and analyzing and reporting on trends of agencies' Dashboard CIO ratings over time. By analyzing trends, OMB is better positioned to ensure that investment risk is assessed accurately and that patterns warranting special management attention are observed, identified, and addressed. Further, improved agency performance data helps to ensure that OMB, other oversight bodies, and the general public are better positioned to hold the government agencies accountable for results and progress.

- Federal agencies have improved their data center consolidation efforts by increasing the quality of their data center inventories and considering consolidation challenges and lessons learned. As a result, agencies are better positioned to implement their consolidation activities, improve infrastructure utilization, and realize expected cost savings.
- Federal agencies have acted to ensure that their operations and maintenance investments are properly analyzed by periodically examining the investments' performance against, among other things, established cost, schedule, and performance goals. By performing these analyses, agencies are better able to measure performance and have increased assurance that their investments are helping to meet mission goals

GAO Contact

For additional information about this high-risk area, contact David A. Powner at (202) 512-9286 or pownerd@gao.gov or Carol Harris at (202) 512-4456 or harrisc@gao.gov.

Related GAO Products

IT Workforce: Key Practices Help Ensure Strong Integrated Program Teams; Selected Departments Need to Assess Skill Gaps. GAO-17-8. Washington, D.C.: November 30, 2016.

Information Technology: Agencies Need to Improve Their Application Inventories to Achieve Additional Savings. GAO-16-511. Washington, D.C.: September 29, 2016.

Information Technology Reform: Agencies Need to Increase Their Use of Incremental Development Practices. GAO-16-469. Washington, D.C.: August 16, 2016.

Digital Service Programs: Assessing Results and Coordinating with Chief Information Officers Can Improve Delivery of Federal Projects. GAO-16-602. Washington, D.C.: August 15, 2016.

Information Technology: Better Management of Interdependencies between Programs Supporting 2020 Census Is Needed. GAO-16-623. Washington, D.C.: August 9, 2016.

IT Dashboard: Agencies Need to Fully Consider Risks When Rating Their Major Investments. GAO-16-494. Washington, D.C.: June 2, 2016.

Information Technology: Federal Agencies Need to Address Aging Legacy Systems, GAO-16-468. Washington, D.C.: May 25, 2016.

DOD Major Automated Information Systems: Improvements Can Be Made in Reporting Critical Changes and Clarifying Leadership Responsibility. GAO-16-336. Washington, D.C.: March 30, 2016.

Data Center Consolidation: Agencies Making Progress, but Planned Savings Goals Need to Be Established [Reissued on March 4, 2016]. GAO-16-323. Washington, D.C.: March 3, 2016.

Information Technology Reform: Billions of Dollars in Savings Have Been Realized, but Agencies Need to Complete Reinvestment Plans. GAO-15-617. Washington, D.C.: September 15, 2015.

Improving Federal Management of Programs that Serve Tribes and Their Members

Why Area Is High Risk

For nearly a decade, we, along with inspectors general, special commissions, and others, have reported that federal agencies have ineffectively administered Indian education and health care programs and inefficiently fulfilled their responsibilities for managing the development of Indian energy resources. In particular, we have found numerous challenges facing the Department of the Interior's (Interior) Bureau of Indian Education (BIE) and Bureau of Indian Affairs (BIA)—both under the Office of the Assistant Secretary for Indian Affairs (Indian Affairs)—and the Department of Health and Human Services' (HHS) Indian Health Service (IHS), in administering education and health care services, which put the health and safety of American Indians served by these programs at risk. These challenges included poor conditions at BIE school facilities that endangered students and inadequate oversight of health care that hindered IHS's ability to ensure quality care to Indian communities. In addition, we have reported that BIA mismanages Indian energy resources held in trust and thereby limits opportunities for tribes and their members to use those resources to create economic benefits and improve the well-being of their communities.

Congress recently noted, "through treaties, statutes, and historical relations with Indian tribes, the United States has undertaken a unique trust responsibility to protect and support Indian tribes and Indians."[1] In light of this unique trust responsibility and concerns about the federal government ineffectively administering Indian education and health care programs and mismanaging Indian energy resources, we are adding

[1]Indian Trust Asset Reform Act, Pub. L. No. 114-178, § 101(3) (2016).

these programs as a high-risk issue because they uniquely affect tribal nations and their members.

What GAO Found

Source: GAO analysis. | 2017 High Risk List GAO-17-317

Federal agencies have ineffectively administered and implemented Indian education and health care programs and mismanaged Indian energy resources in the following broad areas: (1) oversight of federal activities; (2) collaboration and communication; (3) federal workforce planning; (4) equipment, technology, and infrastructure; and (5) federal agencies' data. Although federal agencies have taken some actions to address the 41 recommendations we made related to Indian programs, there are currently 39 that have yet to be fully resolved.

What Remains to Be Done

We plan to continue monitoring federal efforts to address the 39 recommendations that have yet to be fully resolved. To this end, we have ongoing work focusing on accountability for safe schools and school construction and tribal control of energy delivery, management, and resource development.

Education

In the past 3 years, we issued 3 reports on challenges with Indian Affairs' management of BIE schools in which we made 13 recommendations. Eleven recommendations below remain open.

- To help ensure that BIE schools provide safe and healthy facilities for students and staff, we made 4 recommendations which remain open, including that Indian Affairs ensure the inspection information it collects on BIE schools is complete and accurate; develop a plan to build schools' capacity to promptly address safety and health deficiencies; and consistently monitor whether BIE schools have established required safety committees.
- To help ensure that BIE conducts more effective oversight of school spending, we made 4 recommendations which remain open, including that Indian Affairs develop a workforce plan to ensure that BIE has the staff to effectively oversee school spending; put in place written procedures and a risk-based approach to guide BIE in overseeing school spending; and improve information sharing to support the oversight of BIE school spending.
- To help ensure that Indian Affairs improves how it manages Indian education, we made 5 recommendations. Three recommendations remain open, including that Indian Affairs develop a strategic plan for BIE that includes goals and performance measures for how its offices are fulfilling their responsibilities to provide BIE with support; revise Indian Affairs' strategic workforce plan to ensure that BIA regional offices have an appropriate number of staff with the right skills to support BIE schools in their regions; and develop and implement decision-making procedures for BIE to improve accountability for BIE schools.

Health Care

In the past 6 years, we have made 14 recommendations related to Indian health care that remain open. Although IHS has taken several actions in response to our recommendations, such as improving the data collected for the Purchased/Referred Care (PRC) program and adopting Medicare-like rates for non-hospital services, much needs to be done.

- To help ensure that Indian people receive quality health care, the Secretary of HHS should direct the Director of IHS to take the following two actions: (1) as part of implementing IHS's quality

framework, ensure that agency-wide standards for the quality of care provided in its federally operated facilities are developed and systematically monitor facility performance in meeting these standards over time; and (2) develop contingency and succession plans for replacing key personnel, including area directors.

- To help ensure that timely primary care is available and accessible to Indians, IHS should: (1) develop and communicate specific agency-wide standards for wait times in federally-operated facilities, and (2) monitor patient wait times in federally-operated facilities and ensure that corrective actions are taken when standards are not met.
    - To help ensure that IHS has meaningful information on the timeliness with which it issues purchase orders authorizing payment under the PRC program, and to improve the timeliness of payments to providers, we recommend that IHS: (1) modify IHS's claims payment system to separately track IHS referrals and self-referrals, revise the Government Performance and Results Act measures for the PRC program so that it distinguishes between these two types of referrals, and establish separate timeframe targets for these referral types; and (2) better align PRC staffing levels and workloads by revising its current practices, where available, used to pay for PRC program staff. In addition, as HHS and IHS monitor the effect that new coverage options available to IHS beneficiaries through the Patient Protection and Affordable Care Act (PPACA) have on PRC funds, we recommend that IHS concurrently develop potential options to streamline requirements for program eligibility.
- To help ensure successful outreach efforts regarding PPACA coverage expansions, we recommend that IHS realign current resources and personnel to increase capacity to deal with enrollment in Medicaid and the exchanges and prepare for increased billing to these payers.
- If payments for physician and other nonhospital services are capped, we recommend that IHS monitor patient access to these services.
- To help ensure a more equitable allocation of funds per capita across areas, we recommended that Congress consider requiring IHS to develop and use a new method for allocating PRC funds. To make IHS's allocation of PRC program funds more equitable, we recommended that IHS develop (1) written policies and procedures to require area offices to notify IHS when changes are made to the allocation of funds to PRC programs; (2) use actual counts of PRC users in any formula allocating PRC funds that relies on the number of

active users; and (3) use variations in levels of available hospital services, rather than just the existence of a qualifying hospital, in any formula for allocating PRC funds that contain a hospital access component.

- To develop more accurate data for estimating the funds needed for the PRC program and improve IHS oversight, we recommended that IHS develop a written policy documenting how it evaluates need for the PRC program, and disseminate it to area offices so they understand how unfunded services data are used to estimate overall program needs. We also recommend that IHS develop written guidance for PRC programs outlining a process to use when funds are depleted but recipients continue to need services.

Energy

In the past 2 years, we issued 3 reports on developing Indian energy resources in which we made 14 recommendations to BIA. All recommendations remain open.

- To help ensure BIA can verify ownership in a timely manner and identify resources available for development, we made 2 recommendations, including that Interior take steps to improve its geographic information system mapping capabilities.
- To help ensure BIA's review process is efficient and transparent, we made 2 recommendations, including that Interior take steps to develop a documented process to track review and response times for energy-related documents that must be approved before tribes can develop energy resources.
- To help improve clarity of tribal energy resource agreement regulations, we recommended BIA provide additional guidance to tribes on provisions that tribes have identified to Interior as unclear.
- To help ensure that BIA's effort to streamline the review and approval process for revenue-sharing agreements achieves its objectives, we made 3 recommendations, including that Interior establish time frames for the review and approval of Indian revenue-sharing agreements for oil and gas, and establish a system for tracking and monitoring the review and approval process to determine whether time frames are met.
- To help improve efficiencies in the federal regulatory process, we made 4 recommendations, including that BIA take steps to coordinate with other regulatory agencies so the Indian Energy Service Center

can serve as a single point of contact or lead agency to navigate the regulatory process.

- To help ensure that it has a workforce with the right skills, appropriately aligned to meet the agency's goals and tribal priorities, we made 2 recommendations, including that BIA establish a documented process for assessing BIA's workforce composition at agency offices.

Congressional Actions Needed

It is critical that Congress maintain its focus on improving the effectiveness with which federal agencies meet their responsibilities to serve tribes and their members. Since 2013, we testified at 6 hearings to address significant weaknesses we found in the federal management of programs that serve tribes and their members. Sustained congressional attention to these issues will highlight the challenges discussed here and could facilitate federal actions to improve Indian education and health care programs and the development of Indian energy resources.

Additional Details on What GAO Found

Indian Education

Indian Affairs, through BIE, is responsible for providing quality education opportunities to Indian students and oversees 185 elementary and secondary schools that serve approximately 41,000 students on or near Indian reservations in 23 states, often in rural areas and small towns. About two-thirds of these schools are operated by tribes, primarily through federal grants, and about one-third are operated directly by BIE. BIE's Indian education programs originate from the federal government's trust responsibility to Indian tribes, a responsibility established in federal statutes, treaties, court decisions, and executive actions. It is the policy of the United States to fulfill this trust responsibility for educating Indian children by working with tribes to ensure that education programs are of the highest quality and that children are provided a safe and healthy environment in which to learn.

Students attending BIE schools generally must be members of federally recognized Indian tribes, or descendants of members of such tribes, and

reside on or near federal Indian reservations. All BIE schools—both tribally- and BIE-operated—receive almost all of their operational funding from federal sources, namely, Interior and the Department of Education, totaling about $1.2 billion in 2016. Indian Affairs considers many BIE schools to be in poor condition.

BIE is primarily responsible for its schools' educational functions, while their administrative functions—such as safety, facilities, and property management—are divided mainly between two other Indian Affairs' offices, BIA and the Office of the Deputy Assistant Secretary of Management. However, frequent turnover of leadership in these offices has hampered efforts to improve Indian education over the years. For example, in September 2013, we reported that from 2000 through 2013 there were repeated changes in the tenure of acting and permanent assistant secretaries of Indian Affairs as well as acting and permanent directors of BIE. Since that time, leadership turnover has continued in these offices. For example, in March 2016, the previous BIE director was removed for violating federal hiring practices.

Inadequate oversight of federal activities. We have identified weaknesses in how Indian Affairs oversees school safety and construction and in how it monitors the way schools use Interior funds. In a March 2016 report, we found that Indian Affairs had not taken actions to ensure that its regional offices annually inspect the safety and health of all BIE school campuses, as required, or that the information it collects through inspections is complete and accurate, and we recommended that it take such actions. Specifically, we found that Indian Affairs did not conduct annual inspections at about 1 in 3 BIE schools from fiscal years 2012 through 2015. Further, 4 out of 10 regions did not conduct any inspections during this period. We also found that Indian Affairs did not systematically evaluate the thoroughness of the school safety inspections it conducted or monitor the extent to which inspection procedures varied within and across regions. Without Indian Affairs monitoring whether safety inspectors in each of its regions are consistently following appropriate procedures and guidance, inspections in different regions may continue to vary in completeness and miss important safety and health deficiencies at schools that could pose dangers to students and staff. In September 2016, Indian Affairs provided documentation that it had conducted fiscal year 2016 annual safety inspections at all BIE schools, but it did not include evidence that it had taken steps to ensure that its inspection information was complete and accurate. As of January 2017, we had not received further updates from Indian Affairs. We will continue to monitor its efforts in this area.

In a February 2015 testimony, we reported that Indian Affairs did not consistently oversee some BIE school construction projects. For example, we found that at 1 BIE school Indian Affairs managed a $3.5 million project to replace roofs, but the new roofs had leaked continually since they were installed, causing mold and ceiling damage in classrooms, according to agency documents. At another school, Indian Affairs funded construction of a $1.5 million building for school bus maintenance and bus storage, but the size of the building did not allow a large school bus to fit on the lift when the exterior door was closed.

In a November 2014 report, we identified serious weaknesses in Indian Affairs' oversight of school expenditures. For example, we reported that BIE does not have written oversight procedures and risk criteria for ensuring schools use Interior funds for their intended purpose of providing BIE students a quality education. As a result of Indian Affairs' lack of oversight, we identified several instances of funds being misused, including $1.7 million for 1 school that were improperly transferred to an off-shore account.[2] In September 2016, Indian Affairs provided documentation demonstrating it has developed a system for overseeing Department of Education formula grants provided to BIE schools to provide services for children with special needs and to expand and improve educational programs for students from low-income families. However, Indian Affairs was unable to provide documentation showing that it has developed written procedures to oversee funds BIE schools receive from their largest funding source— Interior's Indian School Equalization Program. Further, as of late September 2016, BIE still had not hired additional staff to oversee school spending, among other duties.

Indian Affairs also reported that it developed a risk-based approach to oversee BIE school expenditures, but we found it has not taken steps to fully implement this approach. Specifically, Interior reported that its risk-based approach was to post schools' single audits on a website to enable officials responsible for fiscal monitoring to be able to target those at greatest risk of misusing federal funds.[3] However, in reviewing the site,

[2]BIE reported that its personnel had already investigated the incident when we alerted them.

[3]The Single Audit Act of 1984, as implemented by the Office of Management and Budget, requires a financial audit of grantees who expend at least $500,000 in federal grants and other assistance in a fiscal year. These audits are commonly called "single audits." The audits are carried out at the end of a school's fiscal year and are conducted by independent auditors who are contracted by the grantee. They include both the entity's financial statements and the records of spending of federal grant awards for each program. See 31 U.S.C. §§ 7501-7507.

we found that audits for fewer than half of the schools had been posted on the site during each of the past 2 fiscal years. Access to all or at least the vast majority of these audits is critical for Indian Affairs to be able to conduct risk-based fiscal monitoring activities.

Limited federal workforce planning. We have found limited workforce planning in several key areas related to BIE schools. In a February 2015 testimony, we noted that the capacity of Indian Affairs and BIE school staff to address school facility needs is limited due to gaps in expertise, steady declines in staffing levels, and limited institutional knowledge.

In a November 2014 report, we found that, in part, the lack of financial expertise and training hinders BIE administrators' effectiveness in overseeing school expenditures. For example, although BIE line office administrators made key decisions about single audit report findings—such as whether funds are being spent appropriately—they were not auditors or accountants. Additionally, the administrators responsible for the three BIE offices we visited said they did not have the financial expertise to understand the content of single audits. We recommended that the agency develop a comprehensive workforce plan to ensure that BIE has an adequate number of staff with the requisite knowledge and skills to effectively oversee BIE school expenditures. Interior agreed to implement this recommendation, but as of January 2017, it had not provided documentation that it had done so.

In a September 2013 report, we found that Indian Affairs could not ensure that staffing levels at Indian Affairs' regional offices were adjusted to meet the needs of BIE schools in regions with varying numbers of schools, ranging from 2 to 65, because it had not updated its strategic workforce plan. We recommended that Indian Affairs revise its strategic workforce plan to ensure that its employees providing administrative support to BIE are placed in the appropriate offices to ensure that regions with a large number of schools have sufficient support. Indian Affairs agreed to implement this recommendation. In September 2016, Interior provided us with a revised workforce plan for Indian Affairs. However, this plan did not include information about the workforce needs related to the Indian Affairs offices that provide administrative support to BIE and its schools and therefore did not address the recommendation. As of January 2017, we had not received further updates from Indian Affairs. We will continue to monitor its efforts in this area.

Outdated and deteriorating equipment, technology, and infrastructure. Aging BIE school facilities and equipment contribute to

degraded and unsafe conditions for students and staff. In a March 2016 report, we found at one school 7 boilers that failed inspection because of multiple high-risk safety deficiencies, including elevated levels of carbon monoxide and a natural gas leak. Four of the boilers were located in a student dormitory, and 3 were located in classroom buildings. All but one of the boilers were about 50 years old. While the poor condition of the boilers posed an imminent danger to the safety of students and staff, most of the boilers were not repaired until about 8 months after failing their inspection, prolonging safety risks to students and staff.

In a February 2015 testimony, we reported that BIE schools face a variety of challenges with their facilities, such as aging buildings and problems that result from years of deferred maintenance. For example, at one school built in 1959 we observed extensive cracks in concrete block walls and supports, which a BIA official said resulted from a shifting foundation.

Incomplete and inaccurate data. A lack of internal controls and other weaknesses hinder Indian Affairs' ability to collect complete and accurate information on the physical conditions of BIE schools. In a March 2016 report, we found that Indian Affairs lacks sound information on safety and health conditions of all BIE schools. Specifically, we found that its nationwide information on safety and health deficiencies at schools is not complete and accurate because of key weaknesses in its inspection program. Without inspection information that is complete and accurate, Indian Affairs cannot effectively determine the magnitude and severity of safety and health deficiencies at schools. As a result, it cannot ensure BIE school facilities are safe for students and staff and currently meet safety and health requirements. We recommended that Indian Affairs take steps to ensure that the inspection information it collects on BIE schools is complete and accurate, among other things. As of January 2017, the agency had not provided documentation that it had done so.

In a February 2015 testimony, we reported that issues with the quality of data on BIE school conditions—such as inconsistent data entry by schools and insufficient quality controls—makes it difficult to determine the actual number of schools in poor condition and undermines Indian Affairs' ability to effectively track and address problems at school facilities.

Indian Health Care

The Indian Health Service (IHS), an agency within HHS, is charged with providing health care to approximately 2.2 million Indians. In fiscal year 2016, IHS allocated about $1.9 billion for health services provided by federally and tribally operated hospitals, health centers, and health stations. Federally operated facilities provide mostly primary and emergency care, in addition to some ancillary or specialty services. The federally operated system consists of 26 hospitals, 56 health centers, and 32 health stations. IHS hospitals range in size from 4 to 133 beds.

When services are not available at federally operated or tribally operated facilities, IHS may pay for services provided through external providers through its PRC program. IHS facilities and their associated PRC programs are located in 12 geographic areas, each overseen by an IHS office led by an area director. The PRC program is funded through annual appropriations and must operate within the limits of available appropriated funds. To be eligible for PRC services, recipients must meet several criteria, including being a member or descendant of a federally recognized tribe or having close social and economic ties with the tribe, and living within a Tribal Contract Health Services Area. Although funding available for the PRC program has recently increased, we have reported that the program is unable to pay for all eligible services, and that these gaps in services sometimes delay diagnoses and treatments, which can exacerbate the severity of a patient's condition and necessitate more intensive treatment.

PPACA expanded or created new health care coverage options that may benefit Indians, including a state option to expand Medicaid eligibility to individuals with incomes at or below 138 percent of the federal poverty level (FPL), federal premium tax credits for individuals obtaining insurance through health insurance exchanges with incomes between 100 and 400 percent of the FPL, and cost sharing exemptions for Indians who are members of federally recognized tribes with incomes at or below 300 percent of the FPL who purchase insurance through the exchanges. In September 2013, we estimated that PPACA's new coverage options may allow hundreds of thousands of Indians to obtain health care benefits for which they were not previously eligible, assuming all states expanded their Medicaid programs. We reported that, if Indians enroll in one of these options and choose to receive care through IHS, increased revenue from third party payers such as Medicaid could free up IHS resources and help alleviate pressure on the IHS budget.

Inadequate oversight of federal activities. IHS provides inadequate oversight of health care, both of its federally operated facilities and through the PRC program. In January 2017, we reported that IHS provided limited and inconsistent oversight of the quality of care provided in its federally operated facilities. As a result, the agency cannot ensure that patients receive quality care. IHS has recently finalized a quality framework designed to address these deficiencies and improve its oversight. We recommended that, as part of implementing the quality framework, IHS ensure that agency-wide standards for the quality of care provided in its federally operated facilities are developed, and that facility performance in meeting these standards is systematically monitored over time. HHS agreed with our recommendation and cited steps it already has underway to improve the quality of care in IHS's federally-operated facilities. HHS described the development of the IHS Quality Framework and Implementation Plan released in November 2016. However, as of January 2017, IHS has not developed agency-wide standards for the quality of care provided in its federally operated facilities.

In March 2016, we reported that IHS had not set any agency-wide standards for patient wait times at IHS federally operated facilities, including how long it should take to schedule an appointment and complete an office visit. According to tribal representatives, patients reported difficulty scheduling primary care visits because of extended wait times. For example, one facility reported that new patients may wait 6 weeks for an initial exam with a family medicine physician, and new patients in internal medicine may wait 3 to 4 months for an initial exam.

IHS has delegated this responsibility to its area offices and has not conducted any systematic, agency-wide oversight of the timeliness of primary care. Without these standards, IHS cannot know whether it is providing sufficient primary care to meet the needs of its patients. We recommended that IHS develop and communicate specific agency-wide standards for patient wait times in federally operated facilities, monitor patient wait times, and take corrective actions when standards are not met. HHS stated that it agreed with the need to improve patient wait times at IHS federally-operated facilities to ensure that primary care is available and accessible to Indians. HHS described its plan to establish an Office of Quality Health Care at IHS Headquarters to provide for national policy and oversight of critical quality improvement strategies and ensure their success and accountability. As of January 2017, IHS has not established the Office of Quality Health Care, and has not developed agency-wide standards for patient wait times in federally operated facilities.

In June 2012, we found that IHS had taken few steps to evaluate variations in the funds it allocates for the Contract Health Services (CHS) program (now called PRC), which varied from $299 to $801 per capita across the 12 IHS geographic areas in fiscal year 2010. IHS does not know the origin of the base funding formula, which, according to IHS officials, has existed since the 1930s and accounted for 82 percent of the funds allocated to the area offices that year. Annual adjustments for population growth and inflation are made as a percentage of base funding and are the same across all areas. Additional program increases are not large enough to alter funding variations because these additional increases have been a relatively small proportion of PRC funds that area offices receive. Because IHS continues to use this methodology, it cannot equitably allocate funds to meet the health care needs of Indians. In order to ensure IHS equitably allocates PRC funds, we recommended that the Congress consider requiring IHS to develop and use a new method to allocate funds to account for variations across areas. Legislation introduced in the House and reported out of committee in 2016 would have addressed this issue by requiring the agency to establish regulations to develop and implement a revised PRC distribution formula taking into account certain factors that may vary across areas. Also, a House Report partially addressed this issue by directing the agency to allocate an increased funding increment resulting from the 2017 Department of Interior regular appropriation, H.R. 5538, pursuant to a specified allocation formula that may vary across areas. Neither bill became law.

Ineffective collaboration and limited communication. In a June 2012 report, we found that IHS does not require its area offices to inform IHS headquarters if they distribute program increase funds to local PRC programs using different criteria than the PRC allocation formula suggested by headquarters. As a result, IHS may be unaware of additional funding variation across areas. We recommended that IHS develop written policies and procedures to require area offices to notify IHS when they diverge from the formula for allocating funds to PRC programs. HHS concurred with this recommendation and noted that guidance requiring area offices to report these changes to IHS headquarters would be added to the PRC manual, but did not specify a date for doing so. As of January 2017, IHS has not added this guidance to the manual.

Limited federal workforce planning. In a March 2016 report, we reported that IHS officials told us that an insufficient workforce was the biggest impediment to ensuring patients could access timely primary

care. According to IHS's 2016 budget justification, there were over 1,550 vacancies for health care professionals throughout the IHS health care system including: physicians, dentists, nurses, pharmacists, physician assistants, and nurse practitioners. According to IHS officials, staffing vacancies have created obstacles for facilities working to provide primary care.

In September 2013, we found that IHS did not have an effective plan in place to ensure that sufficient staff would be in place to assist with increased enrollment and third party billing under expanded Medicaid or the exchanges beginning in 2014 under PPACA. Without a plan, IHS may not be able to ensure that a sufficient number of staff are available to assist with enrollment and to process increased third-party payments. We recommended that IHS realign current resources and personnel to increase capacity to assist with these efforts. HHS neither agreed nor disagreed with this recommendation. As of January 2017, IHS has not implemented this recommendation.

In December 2013, we reported that local PRC program officials said that insufficient staffing for the PRC program affected their ability to issue timely purchase orders for health care services approved by the program. IHS's staffing standards model established a staffing ratio based on the annual number of purchase orders authorized for health services at a facility, and some PRC program officials noted that their number of staff was below these standards, contributing to delays in determining eligibility for the program and processing payments to providers. We recommended that IHS use available PRC funds to pay for PRC program staff. HHS disagreed with this recommendation, stating its intent to use PRC funds to pay only for services, not staff, since PRC funding was not sufficient to pay for all needed services. We acknowledged the difficult challenges and choices faced by PRC programs when program funds are not available to pay for all needed services, but maintained that without using funds to pay for staff, some PRC programs would continue to have staffing levels below IHS's staffing standards model, which contributes to delays in administering the program. As of January 2017, IHS has not implemented this recommendation.

Outdated and deteriorating equipment, technology, and infrastructure. In March 2016, we reported that IHS officials told us that access to timely primary care at some health care facilities serving Indian communities is hindered by outdated medical and telecommunications equipment, such as analog mammography machines and telephones with an insufficient number of lines for scheduling patient appointments.

Incomplete and inaccurate data. In a June 2012 report, we found that IHS officials do not believe that its PRC program data are complete or that areas collect these data in the same manner. Without accurate data, IHS cannot know if the proportion of actual PRC users is consistent across areas. We made three recommendations to improve the accuracy of the PRC data for future allocations, including using actual counts of PRC users, using variation in levels of available hospital services in the funding formula, and, as mentioned above, requiring area offices to notify headquarters when they diverge from the formula for allocating funds to PRC programs. HHS did not concur with our recommendation to use actual counts of PRC users, rather than all IHS users, in any formula for allocating PRC funds that relies on the number of active users, stating that IHS's combined count of all users is intended to reflect the health care needs of PRC users. HHS concurred with our recommendation that IHS use variations in levels of available hospital services to allocate PRC funds. As of January 2017, IHS has not implemented these recommendations.

In December 2013, we reported that one of the measures IHS uses to assess the time it takes to approve and process payments to providers in the PRC program did not provide a clear picture of timeliness because it combines data for two different types of PRC services. We recommended that IHS take steps to improve its ability to measure timeliness by modifying its claims data system to distinguish between two types of referrals and establish separate timeframe targets for each type. HHS concurred with this recommendation, but as of January 2017, IHS has not implemented it.

Indian Energy Resources

Developing energy resources is vital for the livelihood and long-term economic wellbeing of some Indian tribes and their members. More specifically, energy development provides opportunities to improve poor living conditions and decrease high levels of poverty. Tribes and their members determine how to use Indian energy resources to meet the needs of the community. However, if the resources are held in trust or restricted status, BIA—through its 12 regional offices, 85 agency offices, and other supporting offices—generally must review and approve leases,

permits, and other documents required to develop the resources.[4] In 2014, in response to tribal requests for increased coordination and efficient management of their resources from the numerous federal regulatory agencies involved with Indian energy development, Interior took initial steps to form a new office, the Indian Energy Service Center (Service Center)—with BIA as the lead agency. According to Interior's fiscal year 2016 budget justification, the Service Center is intended to, among other things, help expedite the leasing and permitting processes associated with Indian energy development.

Our work has shown that BIA did not incorporate leading practices or adhere to agency guidance in developing the Service Center and BIA has mismanaged Indian energy resources in the following ways:

Inadequate oversight of federal activities. In a June 2015 report, we found that BIA must review and approve activities throughout the development process, but BIA does not have a documented process or the data needed to track its review and response times—such as the date documents are received, the date the review process is considered complete by the agency, and the date documents are approved or denied. However, a few stakeholders we interviewed and some literature we reviewed identified that BIA's review and approval process can be lengthy and increase development costs and project development times, resulting in missed development opportunities, lost revenue, and jeopardized viability of projects. For example, according to a tribal official, BIA took as long as 8 years to review some of its energy-related documents. In the meantime, the tribe estimates it lost $95 million in revenues it could have earned from tribal permitting fees, oil and gas severance taxes, and royalties. In another example, one lease for a proposed utility-scale wind project took BIA more than 3 years to review and approve. According to a tribal official, the long review time has contributed to uncertainty about the continued viability of the project because data used to support the economic feasibility and environmental impact of the project became too old to accurately reflect current conditions. We recommended that Interior direct BIA to develop a documented process to track its review and response times. In response, Interior stated it would try to implement a tracking and monitoring

[4]Trust resources are held by the U.S. government for the beneficial interest of the tribe or a member, and restricted resources are owned by the tribe or a member but subject to restrictions on alienation. Trust and restricted resources generally cannot be leased without approval of the Secretary of the Interior, who has generally delegated this authority to BIA.

mechanism by the end of fiscal year 2017 for oil and gas leases. However, it did not indicate whether it intends to track and monitor its review of other energy-related documents that must be approved before tribes can develop resources. Without comprehensively tracking and monitoring its review process, BIA cannot ensure that documents are moving forward in a timely manner, and lengthy review times may continue to contribute to lost revenue and missed development opportunities for Indian tribes.

In a June 2016 report, we found that BIA took steps to improve its process for reviewing revenue-sharing agreements, but still had not established a systematic mechanism for monitoring or tracking. With respect to revenue sharing agreements, we recommended, among other things, that BIA develop a systematic mechanism for tracking these agreements through the review and approval process. Interior concurred with these recommendations and stated that BIA will develop such a mechanism and in the meantime use a centralized tracking spreadsheet.

Ineffective collaboration and limited communication. In a November 2016 report, we found that BIA has taken steps to form an Indian Energy Service Center that is intended to, among other things, help expedite the permitting process associated with Indian energy development. However, BIA did not coordinate with key regulatory agencies, including Interior's Fish and Wildlife Service, the U.S. Army Corps of Engineers, and the Environmental Protection Agency. As a result, the Service Center has not been established as the central point for collaborating with all federal regulatory partners generally involved in energy development, nor does it serve as a single point of contact for permitting requirements. Without serving in these capacities, the Service Center will be limited in its ability to improve efficiencies in the federal regulatory process. We also found that in forming the Service Center, BIA did not involve key stakeholders, such as the Department of Energy—an agency with significant energy expertise—and BIA employees from agency offices. By not involving key stakeholders, BIA has missed an opportunity to incorporate their expertise into its efforts. We recommended that BIA include other regulatory agencies in the Service Center so that it can act as a single point of contact or a lead agency to coordinate and navigate the regulatory process. We also recommended BIA establish formal agreements with key stakeholders, such as DOE, that identify the advisory or support role of the office, and establish a process for seeking and obtaining input from key stakeholders, such as BIA employees, on the Service Center activities. Interior agreed with our recommendations and described plans to address them.

In 2005, Congress provided an option for tribes to enter into an agreement with the Secretary of the Interior that allows the tribe, at its discretion, to enter into leases, business agreements, and rights-of-way agreements for energy resource development on tribal lands without review and approval by the Secretary. However, in a June 2015 report, we found that uncertainties about Interior's regulations for implementing this option have contributed to deter a tribe from pursuing an agreement. We recommended that Interior provide clarifying guidance. In August 2015, Interior stated the agency is considering further guidance. As of December 2016, Interior had not provided additional guidance.

Limited federal workforce planning. In November 2016, we found BIA had high vacancy rates at some agency offices and that the agency had not conducted key workforce planning activities, such as identifying the key workforce skills needed to achieve agency goals, and assessing any skill gaps. These workforce issues contribute to BIA's management shortcomings that have hindered Indian energy development. Until BIA undertakes necessary workforce planning activities, it cannot ensure that it has a workforce with the right skills, appropriately aligned to meet the agency's goals and tribal priorities. We recommended that BIA assess critical skills and competencies needed to fulfill its responsibilities related to energy development and identify potential gaps. We also recommended BIA establish a documented process for assessing BIA's workforce composition at agency offices taking into account BIA's mission, goals, and tribal priorities. Interior agreed with our recommendations and stated it is taking steps to implement them.

Outdated and deteriorating equipment, technology, and infrastructure. In June 2015, we found that BIA does not have the necessary geographic information system (GIS) mapping data for identifying who owns and uses resources, such as existing leases. Interior guidance states that efficient management of oil and gas resources relies, in part, on GIS mapping technology because it allows managers to easily identify resources available for lease and where leases are in effect. According to a BIA official, without GIS data, the process of identifying transactions, such as leases and access agreements for Indian land and resources, can take significant time and staff resources to search paper records stored in multiple locations. We recommended BIA should take steps to improve its GIS capabilities to ensure it can verify ownership in a timely manner. Interior stated it will enhance mapping capabilities by developing a national dataset composed of all Indian land tracts and boundaries in the next 4 years.

Incomplete and inaccurate data. In June 2015, we found that BIA did not have the data it needs to verify who owns some Indian oil and gas resources or identify where leases are in effect. In some cases, BIA cannot verify ownership because federal cadastral surveys—the means by which land is defined, divided, traced, and recorded—cannot be found or are outdated. The ability to account for Indian resources would assist BIA in fulfilling its federal trust responsibility, and determining ownership is a necessary step for BIA to approve leases and other energy-related documents. We recommended that Interior direct BIA to identify land survey needs. Interior stated it will develop a data collection tool to identify the extent of its survey needs in fiscal year 2016. As of December 2016, Interior had not provided information on the status of its efforts to develop a data collection tool.

GAO Contact

For additional information about this high-risk area related to our Indian Education work, contact Melissa Emrey-Arras at (617) 788-0534 or EmreyArrasM@gao.gov. For additional information about this high-risk area related to our Indian Health work, contact Kathleen King at (202) 512-7114 or KingK@gao.gov. For additional information about this high-risk area related to our Indian Energy work, contact Frank Rusco at (202) 512-3841 or RuscoF@gao.gov.

Related GAO Products

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2020 Decennial Census

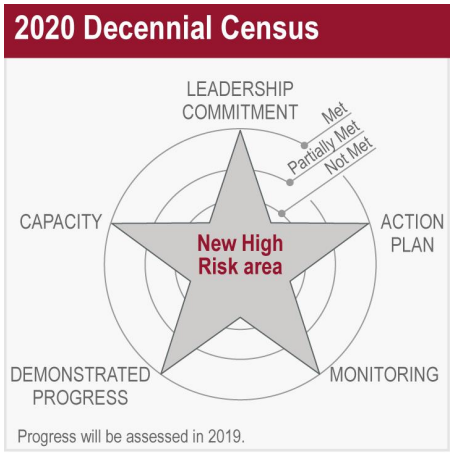
Why Area Is High Risk

One of the most important functions of the U.S. Census Bureau (Bureau) is conducting the decennial census of the U.S. population, which is mandated by the Constitution and provides vital data for the nation. This information is used to apportion the seats of the U.S. House of Representatives; realign the boundaries of the legislative districts of each state; allocate billions of dollars in federal financial assistance; and provide social, demographic, and economic profiles of the nation's people to guide policy decisions at each level of government. A complete count of the nation's population is an enormous challenge as the Bureau seeks to control the cost of the census while it implements several new innovations and manages the processes of acquiring and developing new and modified information technology (IT) systems supporting them. Over the past 3 years, we have made 30 recommendations to help the Bureau design and implement a more cost-effective census for 2020; however, only 6 of them had been fully implemented as of January 2017.

The cost of the census, in terms of cost for counting each housing unit, has been escalating over the last several decennials. The 2010 Census was the costliest U.S. Census in history at about $12.3 billion, and was about 31 percent more costly than the $9.4 billion 2000 Census (in 2020 dollars).[1] The average cost for counting a housing unit increased from about $16 in 1970 to around $92 in 2010 (in 2020 constant dollars). Meanwhile, the return of census questionnaires by mail (the primary mode of data collection) declined over this period from 78 percent in 1970 to 63 percent in 2010. Declining mail response rates—a key indicator of a cost-effective census—are significant and lead to higher costs. This is because the Bureau sends enumerators to each non-responding household to obtain census data. As a result, non-response follow-up (NRFU) is the Bureau's largest and most costly field operation. In many ways, the Bureau has had to invest substantially more resources each decade to match the results of prior enumerations.

[1]The fiscal year 2020 constant dollar factors the Bureau used are derived from the Chained Price Index from "Gross Domestic Product and Deflators Used in the Historical Tables: 1940–2020" table from the *Fiscal Year 2016 Budget of the United States Government*.

What Remains to Be Done



Source: GAO analysis. | 2017 High Risk List GAO-17-317

The Bureau plans to implement several new innovations in its design of the 2020 Census. In response to our recommendations regarding past decennial efforts and other assessments, the Bureau has fundamentally reexamined its approach for conducting the 2020 Census. Its plan for 2020 includes four broad innovation areas that it believes will save it over $5 billion (2020 constant dollars) when compared to what it estimates conducting the census with traditional methods would cost. The Bureau's innovations include (1) using the Internet as a self-response option, which the Bureau has never done on a large scale before; (2) verifying most addresses using "in-office" procedures and on-screen imagery rather than street-by-street field canvassing; (3) re-engineering data collection methods such as by relying on an automated case management system; and (4) in certain instances, replacing enumerator collection of data with administrative records (information already provided to federal and state governments as they administer other programs). These innovations show promise for a more cost-effective head count. However, they also introduce new risks, in part, because they include new procedures and technology that have not been used extensively in earlier decennials, if at all.

The Bureau is also managing the acquisition and development of new and modified IT systems, which add complexity to the design of the census. To help control census costs, the Bureau plans to significantly change the methods and technology it uses to count the population, such as offering an option for households to respond to the survey via the

Internet or phone, providing mobile devices for field enumerators to collect survey data from households, and automating the management of field operations. This redesign relies on acquiring and developing many new and modified IT systems, which could add complexity to the design.

These cost risks, new innovations, and the acquisition and development of IT systems for the 2020 Census, along with other challenges we have identified in recent years, raise serious concerns about the Bureau's ability to conduct a cost-effective enumeration. Based on these concerns, we have concluded that the 2020 Census is a high-risk area and have added it to the High-Risk List in 2017.

To help the Bureau mitigate the risks associated with its fundamentally new and complex innovations for the 2020 Census, the commitment of top leadership is needed to ensure the Bureau's management, culture, and business practices align with a cost-effective enumeration. For example, the Bureau needs to continue strategic workforce planning efforts to ensure it has the skills and competencies needed to support planning and executing the census. It must also rigorously test individual census-taking activities to provide information on their feasibility and performance, their potential for achieving desired results, and the extent to which they are able to function together under full operational conditions.[2] We have recommended that the Bureau also ensure that its scheduling adheres to leading practices and be able to support a quantitative schedule risk assessment, such as by having all activities associated with the levels of resources and effort needed to complete them. The Bureau has stated that it has begun maturing project schedules to ensure that the logical relationships are in place and plans to conduct a quantitative risk assessment. We will continue to monitor the Bureau's efforts.

The Bureau must also improve its ability to manage, develop, and secure its IT systems. For example, the Bureau needs to prioritize its IT decisions and determine what information it needs in order to make those decisions. In addition, the Bureau needs to make key IT decisions for the 2020 Census in order to ensure they have enough time to have the production systems in place to support the end-to-end system test. To this end, we recommended the Bureau ensure that the methodologies for answering the Internet response rate and IT infrastructure research

[2]GAO, *2020 Census: Additional Actions Could Strengthen Data Collection Efforts,* GAO-17-191 (Washington, D.C.: Jan. 26, 2017).

questions are determined and documented in time to inform key design decisions.[3] Further, given the numerous and critical dependencies between the Census Enterprise Data Collection and Processing (CEDCaP) program—a large and complex modernization program within the IT Directorate—and 2020 Census programs, their parallel implementation tracks, and the 2020 Census's immovable deadline, we recommended that the Bureau establish a comprehensive and integrated list of all interdependent risks facing the two programs, and clearly identify roles and responsibilities for managing this list.[4] The Bureau stated that it plans to take actions to address our recommendations.

It is also critical for the Bureau to have better oversight and control over its cost estimation process and we have recommended that the Bureau ensure its cost estimate is consistent with our leading practices.[5] For example, the Bureau will need to, among other practices, document all cost-influencing assumptions; describe estimating methodologies used for each cost element; ensure that variances between planned and actual cost are documented, explained, and reviewed; and include a comprehensive sensitivity analysis, so that it can better estimate costs. We also recommended that the Bureau implement and institutionalize processes or methods for ensuring control over how risk and uncertainty are accounted for and communicated within its cost estimation process. The Bureau agreed with our recommendations, and we are currently conducting a follow-up audit of the Bureau's most recent cost estimate and will determine whether the Bureau has implemented them.

Sustained congressional oversight will be essential as well. In 2015 and 2016, congressional committees held five hearings focusing on the progress of the Bureau's preparations for the decennial. Going forward, active oversight will be needed to ensure these efforts stay on track, the Bureau has needed resources, and Bureau officials are held accountable for implementing the enumeration as planned.

[3]GAO, *2020 Census: Key Challenges Need to Be Addressed to Successfully Enable Internet Response,* GAO-15-225 (Washington, D.C.: Feb. 5, 2015).

[4]GAO, *Information Technology: Better Management of Interdependencies between Programs Supporting 2020 Census Is Needed*, GAO-16-623 (Washington, D.C.: Aug. 9, 2016).

[5]GAO, *2020 Census: Census Bureau Needs to Improve Its Life-Cycle Cost Estimating Process,* GAO-16-628 (Washington, D.C.: June 30, 2016).

We will continue monitoring the Bureau's efforts to conduct a cost-effective enumeration. To this end, we have ongoing work focusing on such topics as the Bureau's updated life-cycle cost estimate and the readiness of IT systems for the 2018 End-to-End Test, which is essentially a dress rehearsal for the decennial.

Additional Details on What GAO Found

Challenges Implementing Innovations

The Bureau is planning many previously unused innovations for the 2020 Census: The decennial census is an inherently challenging undertaking, requiring many moving parts to come together in a short time and be completed according to a prescribed schedule. To help control costs and maintain accuracy, the Bureau is introducing significant change to how it conducts the decennial census in 2020. Its planned innovations include (1) making greater use of local data, imagery, and other office procedures to build its address list; (2) improving self-response by encouraging respondents to use the Internet and telephone; (3) using administrative records to reduce field work; and (4) reengineering field operations using technology to reduce manual effort and improve productivity. While the census is under way, the tolerance for any breakdowns is quite small. As a result, given the new four innovation areas for the 2020 Census, it will be imperative that the Bureau have systems and operations in place for the 2018 End-to-End Test.

Using administrative records is promising but introduces challenges: Although administrative records—information already provided to the government as it administers other programs—have been discussed and used for the decennial census since the 1970s, the Bureau plans a more significant role for them to reduce the amount of data collection fieldwork, which has the potential to help significantly limit the cost increases of the 2020 Census. The Bureau has estimated that using these records could save up to $1.4 billion compared to traditional census methods. In 2015, we found that while the Bureau has already demonstrated the feasibility of using administrative records, it still faces challenges with using them for the 2020 Census.[6] For example, although the Bureau has no control over the accuracy of data provided to it by

[6]GAO, *2020 Census: Additional Actions Would Help the Bureau Realize Potential Administrative Records Cost Savings,* GAO-16-48 (Washington, D.C.: Oct. 20, 2015).

other agencies, it is responsible for ensuring that data it uses for 2020 Census are of sufficient quality for their planned uses.

Another challenge we identified is the extent to which the public will accept government agencies sharing personal data for the purposes of the census. Related concerns involve trust in the government and perceptions about burden on respondents as well the social benefits of agencies sharing data. Moreover, in addition to using administrative records to reduce fieldwork, the Bureau is considering several additional opportunities to leverage administrative records to help improve the cost and quality of the 2020 Census. It will be important for the Bureau to set deadlines for deciding which records it will use and for which purpose to help the Bureau monitor its progress and prioritize which activities—or records—to continue pursuing, or to abandon, if time becomes a constraint.

The Bureau needs to identify and analyze root causes of non-interviews during testing: When households do not respond to the census and when the Bureau does not obtain information about the household while knocking on doors during its NRFU operation, the Bureau may have to impute attributes of the household based on the demographic characteristics of surrounding housing units as well as on administrative records. We reported in 2016 that during the Bureau's 2016 Census Site Test, the Bureau experienced about 20 and 30 percent of its test workload as non-interviews at its two test sites in Harris County, Texas, and Los Angeles County, California, respectively.[7] According to the Bureau, non-interviews are cases where no data or insufficient data are collected, either because enumerators make six attempted visits without success (the maximum number the Bureau allows), or are not completed due to, for example, language barriers or dangerous situations.[8] Identifying root causes of problems is something we look for when determining progress within a high-risk area. Accordingly, while the 2016 Census Test non-interview rate is not necessarily a precursor to the 2020 non-interview rate, because of its relationship to the cost and quality of the census, it will be important for the Bureau to better understand the factors contributing to it.

[7]GAO, *Decennial Census: Progress Report on Preparations for 2020,* GAO-17-238T (Washington, D.C.: Nov. 16, 2016).

[8]According to the Bureau, it needs to collect a number of predefined specific combinations of data elements during field interviews in order to consider the interview complete.

Bureau cancelled field tests for 2017: The Bureau plans to conduct additional research through 2018 in order to further refine the design of the 2020 Census, but recently had to alter its approach. On October 18, 2016, the Bureau decided to stop two field test operations planned for fiscal year 2017 in order to mitigate risks from funding uncertainty. Specifically, the Bureau said it would stop all planned field activity, including local outreach and hiring, at its test sites in Puerto Rico, North and South Dakota, and Washington State. The Bureau will not carry out planned field tests of its mail-out strategy and follow up for non-response in Puerto Rico or its door-to-door enumeration. The Bureau also cancelled plans to update its address list in the Indian lands and surrounding areas in the three states.

However, the Bureau will continue with other planned testing in fiscal year 2017, such as those focusing on systems readiness and Internet response. Further, the Bureau said it would consider incorporating the cancelled field activities elements within the 2018 End-to-End Test. The Bureau maintains that stopping the 2017 Field Test will help prioritize readiness for the 2018 End-to-End Test, and mitigate risk. Nevertheless, as we reported in November 2016, it also represents a lost opportunity to test, refine, and integrate operations and systems, and it puts more pressure on the 2018 Test to demonstrate that enumeration activities will function as needed for 2020.[9]

Critical IT Uncertainties

The Bureau needs to strengthen the management and oversight of all IT programs, systems, and contractors supporting the decennial: The redesign of the 2020 Census relies on many new and modified IT systems. In addition to those systems that are being managed and developed within the 2020 Census Directorate, the 2020 program is also heavily dependent upon 11 systems that are being delivered by the CEDCaP program—a large and complex modernization program within the IT Directorate. Importantly, as a result of the Bureau's challenges in key IT internal controls and its rapidly approaching deadline, we identified CEDCaP as an IT investment in need of attention in the February 2015 high-risk report.[10] In addition, in August 2016, we reported that the 2020

[9]GAO-17-238T.

[10]As part of a new entry into the February 2015 update to our High-Risk Series focused on improving the management of IT acquisitions and operations, CEDCaP was identified as an IT investment—among others across the federal government—in need of the most attention.

program and CEDCaP program lacked effective processes for managing their schedule, risk, and requirements interdependencies.[11]

For example, among tens of thousands of schedule activities, the two programs were expected to manually identify activities that are dependent on each other, and rather than establishing one integrated dependency schedule, the programs maintained two separate dependency schedules. We reported that this contributed to misaligning milestones between the programs. We stated that until the two programs establish schedules that are completely aligned, develop an integrated list of all interdependent risks, and finalize processes for managing requirements, both programs are at risk of not delivering their programs as expected.

The Bureau is also relying on contractor support in many key areas, including technically integrating all of the key systems and infrastructure, and developing many of the key data collection systems. Specifically, in August 2016, the Bureau hired a contractor to technically integrate the 2020 Census systems and infrastructure, to include evaluating the systems and infrastructure, developing the infrastructure (e.g., cloud or data center) to meet the Bureau's scalability and performance needs, integrating all of the systems, and supporting testing activities.

In addition, the Bureau is relying on contractors to develop a number of key systems and infrastructure; these activities include (1) developing the IT platform that will be used to collect data from a majority of respondents—by using the Internet, telephone, and NRFU activities; (2) procuring the mobile devices and cellular service to be used for NRFU; and (3) developing the IT infrastructure in the field offices. A greater reliance on contractors for these key components of the 2020 Census requires the Bureau to focus on sound management and oversight of the key contracts, projects, and systems.[12]

Key IT decisions need to be prioritized and made in time for full end-to-end testing in 2017: We have issued a series of reports and testimonies that have discussed the Bureau's challenges in prioritizing and making IT decisions. In April 2014, we reported that the Bureau had not prioritized key IT research and testing needed for its 2020 Census

[11]GAO-16-623.

[12]GAO, *Information Technology: Uncertainty Remains about the Bureau's Readiness for a Key Decennial Census Test*, GAO-17-221T (Washington, D.C.: Nov. 16, 2016).

design decisions.[13] In February 2015, we reported that the Bureau had not determined how key IT research questions would be answered—such as the expected rate of respondents using its Internet response option or the IT infrastructure that would be needed to support this option.[14]

Further, we testified, in November 2015, that key IT decisions needed to be made soon because the Bureau was less than 2 years away from preparing for end-to-end testing of all systems and operations, and there was limited time to implement them.[15] We emphasized that the Bureau had deferred key IT-related decisions, and that it was running out of time to develop, acquire, and implement the systems it will need to deliver the redesign.

In October 2016, Bureau officials stated that they had 16 IT-related and 32 partially IT-related decisions left to make, including the uses of cloud-based solutions, the tools and test materials to be used during integration testing, and the expected scale of the system workload for those respondents who do not use the Bureau-provided Census ID. It will be important to make these decisions in enough time to develop solutions before the End-to-End Test begins in August 2017.

Information security risks and challenges need to be addressed to secure the Bureau's systems and data: In August 2016, we described the significant challenges that the Bureau faces in securing systems and data, such as developing policies and procedures to minimize the threat of phishing aimed at stealing personal information[16] and ensuring that individuals gain only limited and appropriate access to 2020 Census data. Because many of the systems to be used in the 2018 End-to-End Test are not yet fully developed, the Bureau has not finalized all of the controls to be implemented, completed an assessment of those controls, developed plans to remediate any control weaknesses, and determined

[13]GAO, *2020 Census: Prioritized Information Technology Research and Testing Is Needed for Census Design Decisions,* GAO-14-389 (Washington, D.C.: Apr. 3, 2014).

[14]GAO-15-225.

[15]GAO, *2020 Census: Key Information Technology Decisions Must Be Made Soon,* GAO-16-205T (Washington, D.C.: Nov. 3, 2015).

[16]Phishing is a digital form of social engineering that uses authentic-looking, but fake, e-mails, websites, or instant messages to get users to download malware, open malicious attachments, or open links that direct them to a website that requests information or executes malicious code.

whether there is time to fully remediate any weaknesses before the system test.

Unreliable 2020 Cost Estimate

Estimation does not conform to best practices: We reviewed the Bureau's October 2015 estimated comprehensive life-cycle cost for the 2020 Census and reported in 2016 that it did not conform to best practices, and, as a result, the estimate was unreliable.[17] Cost estimates that appropriately account for risks facing an agency can help an agency manage large, complex activities like the 2020 Census, as well as help Congress make funding decisions and provide oversight. Cost estimates are also necessary to inform decisions to fund one program over another, to develop annual budget requests, to determine what resources are needed, and to develop baselines for measuring performance.

We found that although the Bureau had taken significant steps to improve its capacity to carry out an effective cost estimate, its estimate for the 2020 Census partially met the characteristics of two best practices (comprehensive and accurate) and minimally met the other two (well-documented and credible), where all four need to be substantially met in order for an estimate to be deemed high-quality.

According to best practices, to be comprehensive an estimate has to have enough detail to ensure that cost elements are neither omitted nor double-counted, and all cost-influencing assumptions are detailed in the estimate's documentation, among other things.[18] While Bureau officials were able to provide us with several documents that included projections and assumptions that were used in the cost estimate, we found the estimate to be partially comprehensive because it is unclear if all life-cycle costs are included in the estimate or if the cost estimate completely defines the program.

Credible cost estimates clearly identify limitations due to uncertainty or bias surrounding the data or assumptions, according to best practices. We found the estimate minimally met best practices for this characteristic in part because the Bureau carried out its risk and uncertainty analysis

[17]GAO-16-628.

[18]*GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs* (Supersedes GAO-07-1134SP), GAO-09-3SP (Washington, D.C.: Mar. 2, 2009).

only for about $4.6 billion (37 percent) of the $12.5 billion total estimated life-cycle cost, excluding, for example, consideration of uncertainty over what the decennial census's estimated part will be of the total cost of CEDCaP.

Accurate estimates are unbiased and contain few mathematical mistakes. We found the estimate partially met best practices for this characteristic, in part because we could not independently verify the calculations the Bureau used within its cost model, which the Bureau did not have documented or explained outside its limited access cost estimation software.

Finally, the Bureau's cost-estimate was not well-documented. Improving cost estimation practices will increase the reliability of the Bureau's cost estimate, which will, among other things, help improve decision making, budget formulation, progress measurement, and accountability for results.

The Bureau's cost estimate had other shortcomings as well. For example, in 2016 we found that the Bureau's cost estimation team did not record how and why it changed assumptions that were provided to it, and the Bureau lacked written guidance and procedures for the cost estimation team to follow.[19] Moreover, key risks were not accounted for in the cost estimate although this is an important best practice.

GAO Contact

For additional information about this high-risk area, contact Robert Goldenkoff at (202) 512-2757 or GoldenkoffR@gao.gov; or David Powner at (202) 512-9286 or PownerD@gao.gov.

Related GAO Products

2020 Census: Additional Actions Could Strengthen Field Data Collection Efforts. GAO-17-191. Washington, D.C.: January 26, 2017.

Information Technology: Better Management of Interdependencies between Programs Supporting 2020 Census Is Needed. GAO-16-623. Washington, D.C.: August 9, 2016.

[19]GAO-16-628.

2020 Census: Census Bureau Needs to Improve Its Life-Cycle Cost Estimating Process. GAO-16-628. Washington, D.C.: June 30, 2016.

2020 Census: Additional Actions Would Help the Bureau Realize Potential Administrative Records Cost Savings. GAO-16-48. Washington, D.C.: October 20, 2015.

2020 Census: Key Challenges Need to Be Addressed to Successfully Enable Internet Response. GAO-15-225. Washington, D.C.: February 5, 2015.

2020 Census: Census Bureau Can Improve Use of Leading Practices When Choosing Address and Mapping Sources. GAO-15-21. Washington, D.C.: October 2, 2014.

2020 Census: Bureau Needs to Improve Scheduling Practices to Enhance Ability to Meet Address List Development Deadlines. GAO-14-59. Washington, D.C.: November 21, 2013.

2020 Census: Additional Steps Are Needed to Build on Early Planning. GAO-12-626. Washington, D.C.: May 17, 2012.

Decennial Census: Additional Actions Could Improve the Census Bureau's Ability to Control Costs for the 2020 Census. GAO-12-80. Washington, D.C.: January 24, 2012.

2010 Census: Census Bureau Has Made Progress on Schedule and Operational Control Tools, but Needs to Prioritize Remaining System Requirements. GAO-10-59. Washington, D.C.: November 13, 2009.

U.S. Government's Environmental Liability

Why Area Is High Risk

The federal government's environmental liability has been growing for the past 20 years and is likely to continue to increase. For fiscal year 2016, the federal government's estimated environmental liability was $447 billion—up from $212 billion for fiscal year 1997.[1] However, this estimate does not reflect all of the future cleanup responsibilities federal agencies may face. Because of the lack of complete information and the often inconsistent approach to making cleanup decisions, federal agencies cannot always address their environmental liabilities in ways that maximize the reduction of health and safety risks to the public and the environment in a cost effective manner.

The federal government is financially liable for cleaning up areas where federal activities have contaminated the environment. Various federal laws, agreements with states, and court decisions require the federal government to clean up environmental hazards at federal sites and facilities—such as nuclear weapons production facilities and military installations. Such sites are contaminated by many types of waste.

Federal accounting standards require agencies responsible for cleaning up contamination to estimate future cleanup and waste disposal costs and to report such costs in their annual financial statements as environmental liabilities. Per federal accounting standards, federal agencies' environmental liability estimates are to include probable and reasonably estimable costs of cleanup work. Where the federal government is not legally responsible for environmental cleanup, but acknowledges that it will assume financial responsibility for the cleanup, a liability is recorded for unpaid amounts due, not necessarily the full cost of cleanup. Also, where the government is legally responsible for environmental cleanup but there is no known technology to clean up a particular site, then known costs for which the entity is responsible, such as a remedial investigation, feasibility studies, and costs to contain the

[1]As used herein, environmental liabilities includes environmental and disposal liabilities.

contamination, are recorded as a liability. Further, federal agencies' environmental liability estimates do not include cost estimates for work for which reasonable estimates cannot currently be generated. Consequently, the ultimate cost of addressing the U.S. government's environmental cleanup is likely greater than $447 billion. Federal agencies' approaches to addressing their environmental liabilities and cleaning up the contamination from past activities are often influenced by numerous site-specific factors, stakeholder agreements, and legal provisions.

We have also found that some agencies do not take a holistic, risk-informed approach to environmental cleanup that aligns limited funds with the greatest risks to human health and the environment. Since 1994, we have made at least 28 recommendations related to addressing the federal government's environmental liability. These include 22 recommendations to the Department of Energy (DOE) or the Department of Defense (DOD), 1 recommendation to the Office of Management and Budget to consult with Congress on agencies' environmental cleanup costs, 1 recommendation to the Department of Agriculture (USDA), and 4 recommendations to Congress to change the law governing cleanup activities. Of these, 13 recommendations remain unimplemented. If implemented, these steps would improve the completeness and reliability of the estimated costs of future cleanup responsibilities and lead to more risk-based management of the cleanup work.

What Remains to Be Done

Source: GAO analysis. | 2017 High Risk List GAO-17-317

Future progress in addressing the U.S. government's environmental liabilities depends, among other things, on how effectively federal departments and agencies set priorities, under increasingly restrictive budgets, that maximize the risk reduction and cost-effectiveness of cleanup approaches. As a first step, some departments and agencies may need to improve the completeness of information about long-term cleanup responsibilities and their associated costs so that decision makers, including Congress, can consider the full scope of the federal government's cleanup obligations. As a next step, certain departments, such as DOE, may need to change how they establish cleanup priorities. For example, DOE's current practice of negotiating agreements with individual sites without considering other sites' agreements or available resources may not ensure that limited resources will be allocated to reducing the greatest environmental risks, and costs will be minimized.

We have recommended actions to federal agencies that, if implemented, would improve the completeness and reliability of the estimated costs of future cleanup responsibilities and lead to more risk-based management of the cleanup work.

Completeness of Environmental Liability Estimates

- In 1994, we recommended that Congress amend certain legislation to require agencies to report annually on progress in implementing plans for completing site inventories, estimates of the total costs to clean up their potential hazardous waste sites, and agencies' progress toward completing their site inventories and on their latest estimates of total cleanup costs. We believe these recommendations are as relevant, if not more so, today.
- In 2015, we recommended that the USDA develop plans and procedures for completing their inventories of potentially contaminated sites. USDA disagreed with this recommendation. However, we continue to believe that USDA's inventory of contaminated and potentially contaminated sites—in particular, abandoned mines, primarily on Forest Service land—is insufficient for effectively managing USDA's overall cleanup program. Interior is also faced with an incomplete inventory of abandoned mines that they are working to improve.

Reliability of Environmental Liability Estimates

- In 2006, we recommended that DOD develop, document, and implement a program for financial management review, assessment, and monitoring of the processes for estimating and reporting environmental liabilities. This recommendation has not been implemented.

Risk-Based Decision-Making

- We have found in the past that DOE's cleanup strategy is not risk-based and should be re-evaluated. DOE's decisions are often driven by local stakeholders and certain requirements in federal facilities agreements and consent decrees. In 1995, we recommended that DOE set national priorities for cleaning up its contaminated sites using data gathered during ongoing risk evaluations. This recommendation has not been implemented.
- In 2003, we recommended that DOE ask Congress to clarify its authority for designating certain waste with relatively low levels of radioactivity as waste incidental to reprocessing, and therefore not managed as high-level waste. In 2004, DOE received this specific authority from Congress for the Savannah River and Idaho Sites,[2] thereby allowing DOE to save billions of dollars in waste treatment costs. The law, however, excluded the Hanford Site.

More recently, in 2015 we found that DOE is not comprehensively integrating risks posed by National Nuclear Security Administration's (NNSA) nonoperational contaminated facilities with EM's portfolio of cleanup work.[3] By not integrating nonoperational facilities from NNSA, EM is not providing Congress with complete information about EM's current and future cleanup obligations as Congress deliberates annually about appropriating funds for cleanup activities. We recommended that DOE integrate its lists of facilities prioritized for disposition with all NNSA facilities that meet EM's transfer requirements, and that EM should include this integrated list as part of the Congressional Budget

[2]Pub. L. No. 108-375, § 3116 (2004).

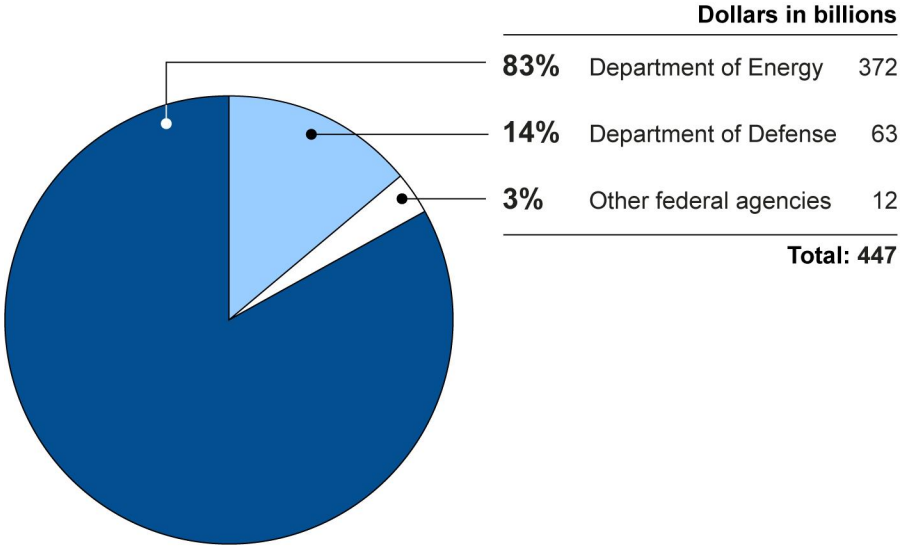
[3]NNSA has identified 83 contaminated facilities for potential transfer to EM for disposition over a 25-year period, 56 of which are currently nonoperational. NNSA is maintaining these facilities for future transfer to EM, but the condition of nonoperational facilities continues to degrade, resulting in increasing costs to NNSA to maintain them to prevent the spread of contamination.

Justification for DOE. DOE neither agreed nor disagreed with this recommendation.

Additional Details on What GAO Found

Of the federal government's estimated $447 billion environmental liability—up from $212 billion for fiscal year 1997[4]—DOE is responsible for by far the largest share of the liability and DOD is responsible for the second largest share. The rest of the federal government makes up the remaining 3 percent of the liability with agencies such as the National Aeronautics and Space Administration (NASA) and the Departments of Transportation, Veterans Affairs, USDA, and Interior holding large liabilities (see figure 13).

Figure 13: Total Reported U.S. Environmental Liability, Fiscal Year 2016



Source: GAO analysis of the Financial Report of the U.S. Government, fiscal year 2016. | GAO-17-317

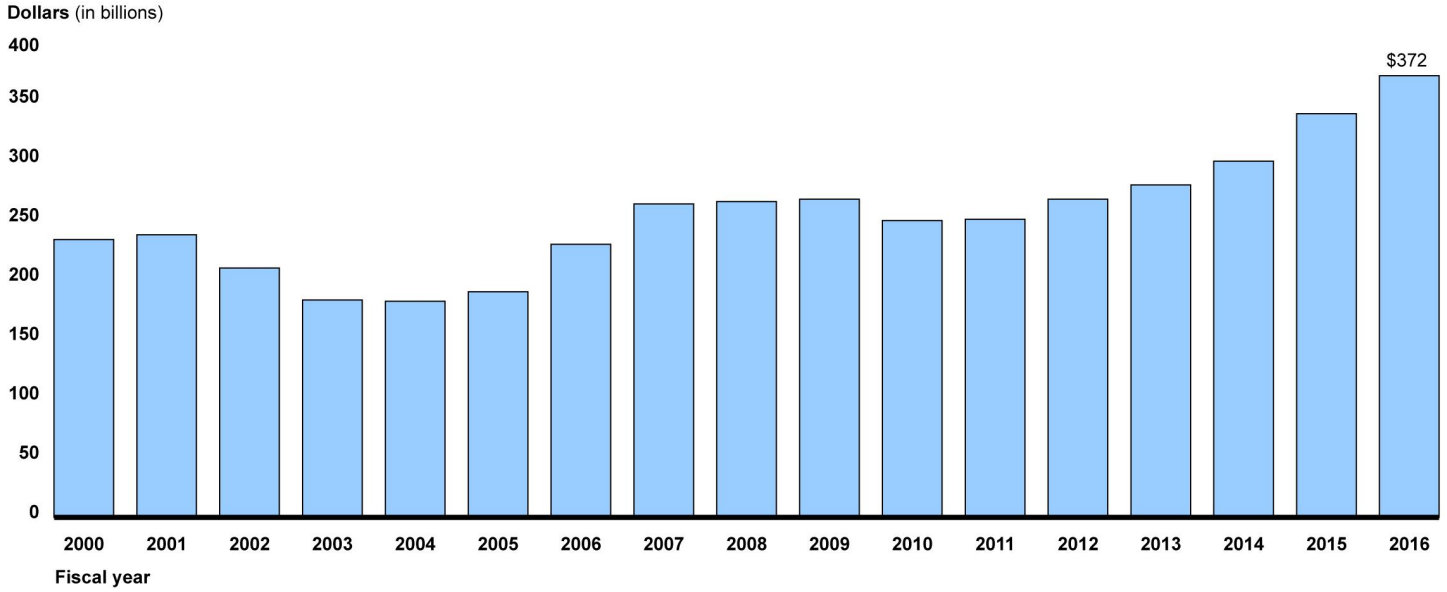
Note: We did not adjust environmental liability estimates for inflation because information about the amount of the liability applicable to each fiscal year was not available.

[4]We did not adjust environmental liability estimates for inflation because information about the amount of the liability applicable to each fiscal year was not available.

Department of Energy

DOE was responsible for over 80 percent ($372 billion) of the U.S. government's fiscal year 2016 reported environmental liability, mostly related to nuclear waste cleanup.[5] DOE's total reported environmental liability has generally increased since fiscal year 2000 (see figure 14). According to audit documentation related to DOE's fiscal year 2016 financial statements, 50 percent of the DOE's environmental liability resides at two cleanup sites: the Hanford Site in Washington State and the Savannah River Site in South Carolina.

Figure 14: Total Reported Department of Energy Environmental Liability, Fiscal Years 2000 to 2016



Source: GAO analysis of Department of Energy budget data. | GAO-17-317

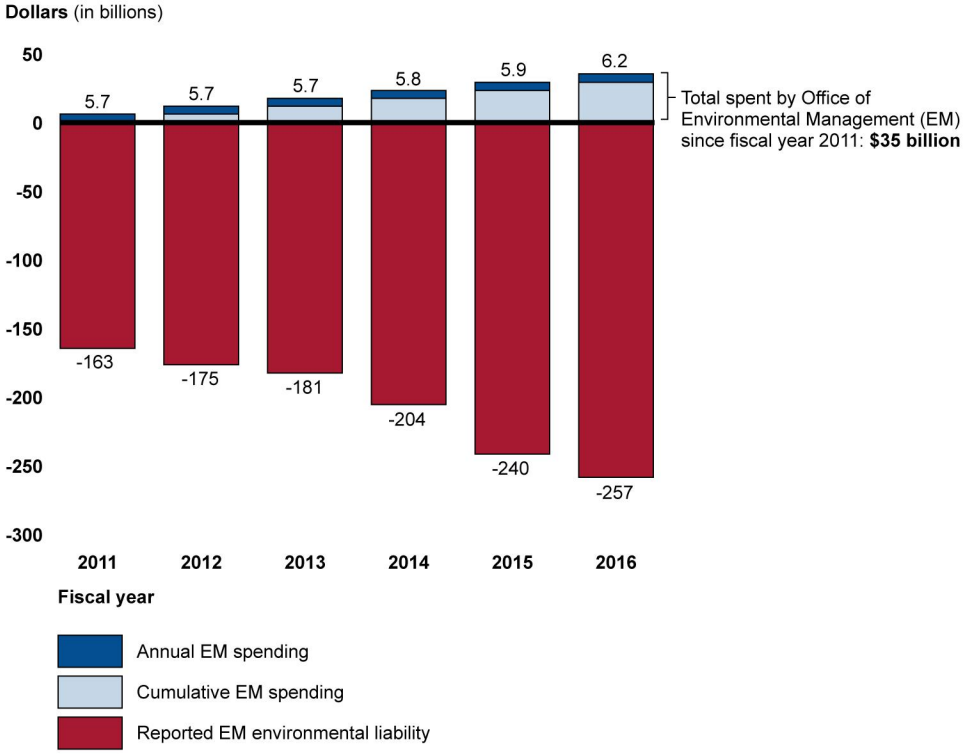
Note: We did not adjust environmental liability estimates for inflation because information about the amount of the liability applicable to each fiscal year was not available.

Since 1989, DOE's Office of Environmental Management (EM) has spent over $164 billion to retrieve, treat, and dispose of nuclear and hazardous waste and to date has completed cleanup at 91 of 107 sites across the country. (The 91 sites were generally viewed by the department as the smallest and least contaminated sites to address.) Despite billions spent on environmental cleanup, DOE's environmental liability has roughly

[5]The majority of DOE's annual environmental cleanup funding—over 80 percent in fiscal year 2016—comes from annual defense authorization spending.

doubled from a low of $176 billion in fiscal year 1997 to the fiscal year 2016 estimate of $372 billion. In the last 6 years alone, EM has spent $35 billion, primarily to treat and dispose of nuclear and hazardous waste and construct capital asset projects to treat the waste, while EM's portion of the environmental liability has grown over this same time period by over $90 billion, from $163 billion to $257 billion (see figure 15).

Figure 15: Department of Energy's Office of Environmental Management's Annual Spending and Growing Environmental Liability



Source: GAO analysis of Department of Energy budget data. | GAO-17-317

Note: EM is the organization within the Department of Energy responsible for managing environmental cleanup and is responsible for cleaning up 107 sites across the country. To date, EM has completed cleanup at 91 of these sites. EM spending includes money to treat and dispose of nuclear and hazardous waste and to construct capital asset projects to treat the waste. We did not adjust environmental liability estimates for inflation because information about the amount of the liability applicable to each fiscal year was not available.

In its fiscal year 2016 financial statement, DOE attributed recent environmental liability increases to (1) inflation adjustments for the current year; (2) improved and updated estimates for the same scope of work, including changes resulting from deferral or acceleration of work; (3) revisions in technical approach or scope for cleanup activities; and (4)

regulatory and legal changes. Notably, in recent annual financial reports, DOE has cited other significant causes for increases in the liability. Other causes have included the lack of a disposal path for high-level radioactive waste—because of the termination of the Yucca Mountain repository program —and delays and scope changes for major construction projects at the Hanford and Savannah River sites.[6]

We testified in February 2016 that DOE's estimated liability does not include billions in expected costs. According to government accounting standards, environmental liability estimates include costs that are probable and reasonably estimable, meaning that costs that cannot yet be reasonably estimated are not included in total environmental liability.[7] Examples of costs that DOE cannot yet estimate include the following:

- DOE has not yet developed a cleanup plan or cost estimate for the Nevada National Security Site and, as a result, the cost of future cleanup of this site was not included in DOE's fiscal year 2015 reported environmental liability. The nearly 1,400-square-mile site has been used for hundreds of nuclear weapons tests since 1951. These activities have resulted in more than 45 million cubic feet of radioactive waste at the site. According to DOE's financial statement, since DOE is not yet required to establish a plan to clean up the site, the costs for this work are excluded from DOE's annually reported environmental liability.
- DOE's reported environmental liability includes an estimate for the cost of a permanent nuclear waste repository, but these estimates are highly uncertain and likely to increase. In response to the termination of the Yucca Mountain repository program, DOE proposed separate repositories for defense high-level and commercial waste in March 2015. In January 2017, we reported that the cost estimate for DOE's new approach excluded the costs and time frames for key activities.

[6]In June 2008, DOE submitted a license application to the NRC seeking authorization to construct a high-level nuclear waste repository at Yucca Mountain. In the application, DOE stated that it planned to open the repository in 2017. DOE later delayed the date to 2020. In March 2009, however, the Secretary of Energy announced plans to terminate the Yucca Mountain repository program and instead study other nuclear waste options. The President's fiscal year 2011 budget proposal, released in February 2010, proposed eliminating all funding for the Yucca Mountain repository program. For more information, see GAO, *Commercial Nuclear Waste: Effects of a Termination of the Yucca Mountain Repository Program and Lessons Learned,* GAO-11-229 (Washington D.C.: Apr. 8, 2011).

[7]Federal Accounting Standards Advisory Board, *FASAB Handbook of Federal Accounting Standards and Other Pronouncements, as Amended* (Washington, D.C.: June 30, 2016).

As a result, the full cost of these activities is likely more than what is reflected in DOE's environmental liability.[8]

There are several possible causes for the large and growing amount of money that DOE will need to meet its cleanup responsibilities. First, as our and other organizations' reports issued over the last 2 decades have found, DOE's environmental cleanup decisions are not risk-based and its risk-based decision making is sometimes impeded by selection of cleanup remedies that are not appropriately tailored to the risks presented, and inconsistencies in the regulatory approaches followed at different sites. We and others have pointed out that DOE needs to take a nation-wide, risk-based approach to cleaning up these sites, which could reduce costs while also reducing environmental risks more quickly. Examples include the following:

- In 1995, we found that DOE's cleanup strategy had been shaped by site-specific environmental agreements whose priorities and requirements had not always been consistent with technical or fiscal realities and that, under severe budgetary constraints, using many separately-negotiated agreements is not well suited to setting priorities among sites.[9] We recommended that DOE set national priorities for cleaning up its contaminated sites. DOE responded at that time that because of limitations on the science of risk assessment, it had no intention of developing national, risk-based priorities for its cleanup work. In a later report, we found that DOE's compliance agreements did not provide a means of prioritizing among sites and, therefore, DOE had not developed a comprehensive, relative ranking of the risks that it faces across its sites. DOE has been unsuccessful in its attempts to develop such a methodology in the past and, as a result, DOE has no systematic way to make cleanup decisions among sites based on risk.
- In 2006, the National Academy of Sciences (the Academy) reported that the nation's cleanup approach—primarily carried out by DOE among other agencies—was complex, inconsistent, and not systematically risk-based. For example, the Academy noted that the current regulatory structure for low activity waste is based primarily on the waste's origins rather than on its actual radiological risks. The

[8]GAO, *Nuclear Waste: Benefits and Costs Should Be Better Understood Before DOE Commits to a Separate Repository for Defense Waste*, GAO-17-174 (Washington, D.C.: Jan. 31, 2017).

[9]GAO, *Department of Energy: National Priorities Needed for Meeting Environmental Agreements*, GAO/RCED-95-1 (Washington, D.C.: Mar. 3, 1995).

Academy concluded that by working with regulators, public authorities, and local citizens to implement risk-informed practices, waste cleanup efforts can be done more cost-effectively. The report also suggested that statutory changes were likely needed. In 2011, the Academy also reported that DOE could realize significant benefits by providing more realistic safety- and risk-informed analyses.

- In 2015, a review organized by the Consortium for Risk Evaluation with Stakeholder Participation reported that DOE is not optimally using available resources to reduce risk.[10] According to the report, factors such as inconsistent regulatory approaches and certain requirements in federal facility agreements cause disproportionate resources to be directed at lower priority risks. The report called for a more systematic effort to assess and rank risks within and among sites, including through headquarters guidance to sites, and to allocate federal taxpayer monies to remedy the highest priority risks through the most efficient means.

Second, DOE's cleanup approach is based primarily on a series of compliance agreements and consent orders between DOE, the Environmental Protection Agency (EPA), and state regulators. According to one DOE official, 40 such agreements establish the requirements for DOE's cleanup work. We have reported in the past that these agreements include thousands of associated milestones. Some of the 40 agreements were made decades ago and may be based on outdated information about the effectiveness of certain cleanup technologies.

Third, DOE may have insufficient controls in place to accurately account for its environmental liabilities. In January 2017, the DOE Inspector General reported a significant deficiency in internal control related to the reconciliation of environmental liabilities.

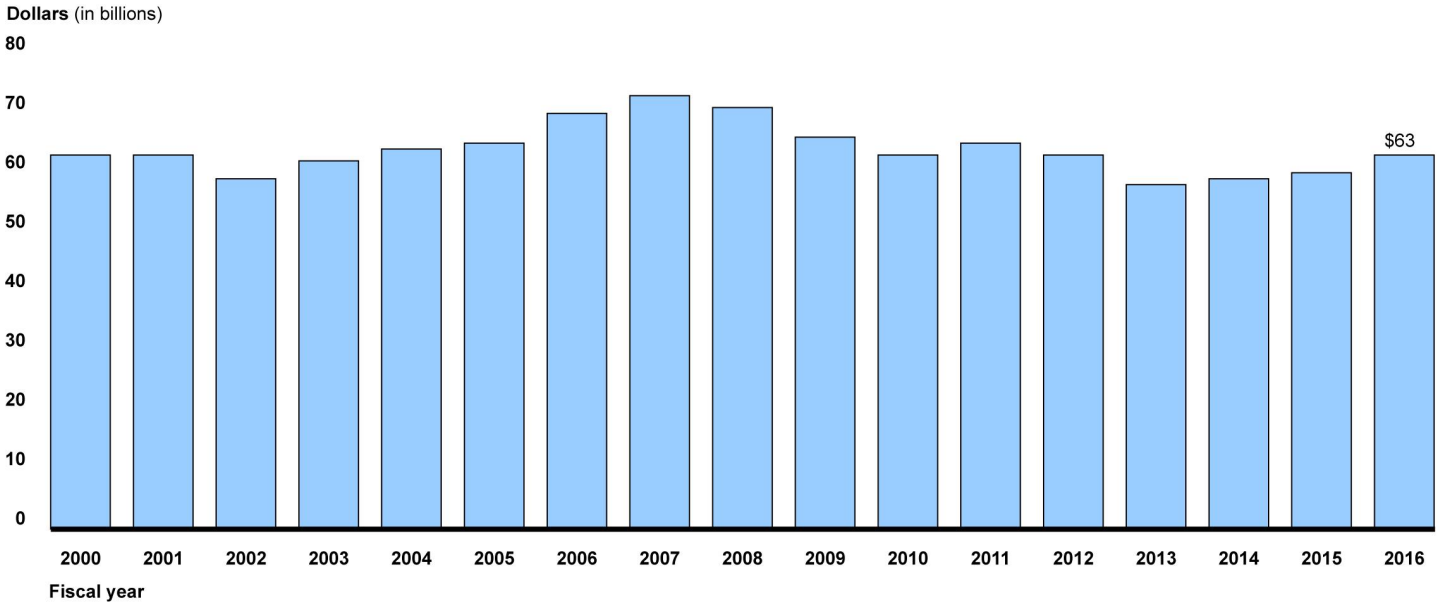
Department of Defense

DOD was responsible for the second largest share of the federal government's reported environmental liability—$63 billion in fiscal year 2016. DOD's total reported environmental liability has remained relatively constant since fiscal year 2000 (see figure 16). We have found in the past that DOD has spent billions on environmental cleanup and restoration at its sites. In July 2010, we reported that DOD spent almost $30 billion from

[10]The Consortium for Risk Evaluation with Stakeholder Participation is a multi-university consortium organized in 1995 that provides several types of independent, multi-disciplinary reviews of DOE documents, projects, and reports.

1986 to 2008 across its environmental cleanup and restoration activities at its installations.[11] More recently, in its July 2016 annual report to Congress on environmental cleanup, DOD reported spending an average of about $1.8 billion each year for its environmental cleanup activities from fiscal years 2011 to 2016.

Figure 16: Total Reported Department of Defense Environmental Liability, Fiscal Years 2000 to 2016



Source: GAO analysis of Department of Defense budget data. | GAO-17-317

Note: We did not adjust environmental liability estimates for inflation because information about the amount of the liability applicable to each fiscal year was not available.

DOD's $63 billion reported environmental liability includes cleanup responsibilities for base realignment and closure (BRAC), disposal of weapon systems, and environmental cleanup and restoration of DOD sites. Our recent work found that DOD's environmental liability is likely to exceed its current estimate because a number of activities are not fully included in the estimate; the activities are not included because their scopes are not yet known. Notably, we reported in February 2014 that our audit of the government's consolidated financial statements found that DOD's inability to estimate with assurance key components of its environmental liabilities was a material weakness. We reported in

[11]GAO, *Superfund: Interagency Agreements and Improved Project Management Needed to Achieve Cleanup Progress at Key Defense Installations*, GAO-10-348 (Washington, D.C.: July 15, 2010).

January 2017 that this weakness still exists. Examples of uncertainties in DOD reported environmental liabilities include the following:

- DOD's current environmental liability estimate does not include additional costs that will likely be needed for DOD to complete the cleanup for BRAC activities. We reported in January 2017 that DOD estimates it will need about $3.4 billion in addition to the $11.5 billion it has already spent to manage and complete environmental cleanup of BRAC installations.[12] We also found that DOD's annual report on its environmental cleanup program does not include significant costs associated with cleanup of contaminants at its installations, including those closed under BRAC.
- DOD's estimate does not include the total costs associated with cleaning up weapons sites. According to DOD's fiscal year 2015 Agency Financial Report (AFR), DOD is unable to estimate and report a liability for the environmental restoration that is needed to clean up buried chemical munitions and agents at certain sites, among other things, because the extent of the buried chemical munitions and agents is unknown.[13]
- DOD may also incur costs not currently included in its environmental liability estimate for restoration initiatives in conjunction with returning overseas DOD facilities to host nations. According to DOD's fiscal year 2015 AFR, DOD is unable to provide a reasonable estimate because the extent of required restoration is unknown.

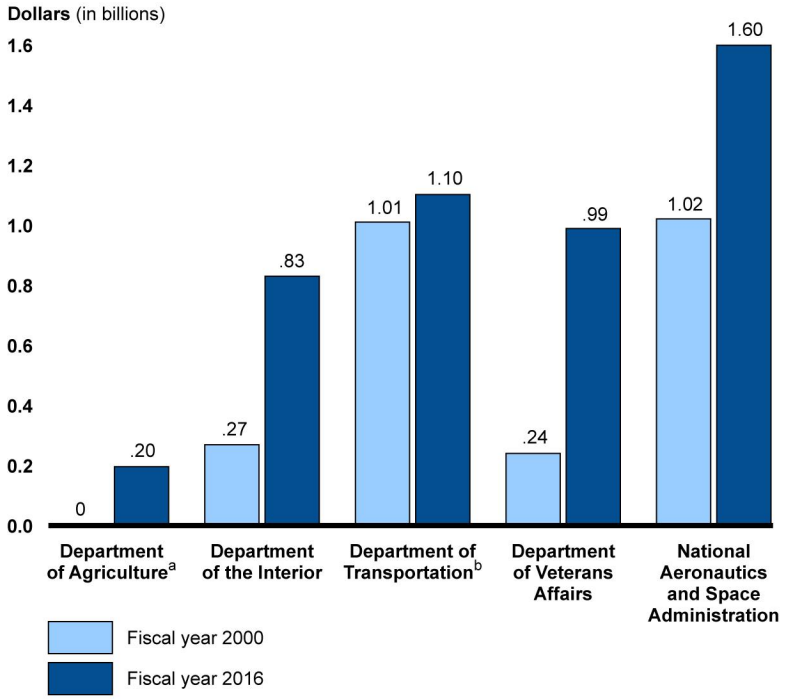
Other Federal Agencies

The remainder of the U.S. government's estimated environmental liability (about $12 billion in fiscal year 2016) was managed by numerous departments and agencies and, similar to the DOE and DOD portions, is likely to increase. Federal agencies with large reported environmental liabilities in fiscal year 2016 included NASA, USDA, and the Departments of Transportation, Veterans Affairs, and Interior. Since 2000, the reported environmental liability for these agencies has also increased (see figure 17).

[12]GAO, *Military Base Realignments and Closures: DOD Has Improved Environmental Cleanup Reporting but Should Obtain and Share More Information*, GAO-17-151 (Washington, D.C.: Jan. 19, 2017).

[13]DOD had not yet issued a fiscal year 2016 financial statement at the time of publication.

Figure 17: Change in Reported Environmental Liability for Selected Agencies, Fiscal Years 2000 to 2016



Source: GAO analysis of agency budget data. | GAO-17-317

Note: We did not adjust environmental liability estimates for inflation because information about the amount of the liability applicable to each fiscal year was not available.

[a]In fiscal year 2000, the Department of Agriculture did not include any estimated environmental liability in its financial statement but did include a note indicating that the Forest Service estimates cleanup for sites on National Forest System lands could cost $2.5 billion.

[b]The figures used for the Department of Transportation are reported environmental liabilities for fiscal years 2001 and 2016 since the department's fiscal year 2000 reported environmental liability of $2.28 billion was incorrect according to a department official.

We have done work recently at USDA and Interior. We found in January 2015 that the environmental liabilities for USDA and Interior do not include many contaminated and potentially contaminated sites—primarily abandoned mines—and that the ultimate costs of future cleanup are therefore likely much higher than what is currently reported in the these departments' environmental liability estimates.[14] Further, the extent to which the federal government will pay cleanup costs may depend on whether or not financially viable responsible parties, including current and

[14]GAO, *Hazardous Waste: Agencies Should Take Steps to Improve Information on USDA's and Interior's Potentially Contaminated Sites*, GAO-15-35 (Washington, D.C.: Jan. 16, 2015).

former mine owners and operators, can be identified. Additionally, neither department has a complete inventory of its cleanup responsibilities. For example,

- USDA: For fiscal year 2016, USDA reported an environmental liability of $196 million. As of April 2014, USDA had identified 1,491 contaminated sites but this list is incomplete as many more potentially contaminated sites, including abandoned mines, have not yet been identified. In 2015, we found that USDA does not have a reliable, centralized site inventory or plans and procedures for completing one, in particular for abandoned mines. For example, in fiscal year 2013, USDA reported $3 million for the Forest Service's environmental liability. In 2015, we found that this figure did not include any cleanup costs for abandoned mines. The Forest Service estimates that there could be from 27,000 to 39,000 abandoned mines on its lands—approximately 20 percent of which may pose some level of risk to human health or the environment—and the federal government may have to pay for cleanup of some of these mines. USDA's Forest Service has not developed a complete, consistent, or usable inventory of abandoned mines and had no plans and procedures for developing such an inventory. Without a reliable inventory, USDA cannot effectively estimate its ultimate cost to cleanup these sites.
- Interior: For fiscal year 2016, Interior reported an environmental liability of about $830 million. We found in 2015 that Interior had an inventory of 4,722 sites, including 85 abandoned mines, with confirmed or likely contamination. However, Interior may have future cleanup responsibilities and, as a result, ultimate cleanup costs may exceed the currently reported environmental liability. Specifically, Interior's Bureau of Land Management (BLM) has identified over 30,000 abandoned mines—some of which will the federal government may have to pay to clean up—that have not yet been assessed for contamination. Furthermore, this inventory is not complete as BLM estimated that there are at least 100,000 abandoned mines that have not yet been inventoried. While cost estimates for addressing these mines are not currently included in Interior's liability, information for certain types of mines indicates that the ultimate cost of Interior's future cleanup responsibilities are greater than what is reflected in the reported environmental liability. BLM is working to improve the completeness and accuracy of its inventory.

GAO Contact

For additional information about this high-risk area, contact David Trimble, Director, Natural Resources and Environment, 202-512-3841 or trimbled@gao.gov.

Related GAO Products

Military Base Realignments and Closures: DOD Has Improved Environmental Cleanup Reporting but Should Obtain and Share More Information. GAO-17-151. Washington, D.C.: January 19, 2017.

Department of Energy: Observations on Efforts by NNSA and the Office of Environmental Management to Manage and Oversee the Nuclear Security Enterprise. GAO-16-422T. Washington, D.C.: February 23, 2016.

DOE Facilities: Better Prioritization and Life Cycle Cost Analysis Would Improve Disposition Planning. GAO-15-272. Washington, D.C.: March 19, 2015.

Hazardous Waste: Agencies Should Take Steps to Improve Information on USDA's and Interior's Potentially Contaminated Sites. GAO-15-35. Washington, D.C.: January 16, 2015.

DOD Financial Management: Effect of Continuing Weaknesses on Management and Operations and Status of Key Challenges. GAO-14-576T. Washington, D.C.: May 13, 2014.

Uranium Mining: Opportunities Exist to Improve Oversight of Financial Assurances. GAO-12-544. Washington, D.C.: May 17, 2012.

Superfund: Interagency Agreements and Improved Project Management Needed to Achieve Cleanup Progress at Key Defense Installations. GAO-10-348. Washington, D.C.: July 15, 2010.

Military Base Closures: Opportunities Exist to Improve Environmental Cleanup Cost Reporting and to Expedite Transfer of Unneeded Property. GAO-07-166. Washington, D.C.: January 30, 2007.

Environmental Liabilities: Long-Term Fiscal Planning Hampered by Control Weaknesses and Uncertainties in the Federal Government's Estimates. GAO-06-427. Washington, D.C.: March 31, 2006.

Nuclear Waste: Challenges to Achieving Potential Savings in DOE's High-Level Waste Cleanup Program. GAO-03-593. Washington, D.C.: June 17, 2003.

Long-Term Commitments: Improving the Budgetary Focus on Environmental Liabilities. GAO-03-219. Washington, D.C.: January 24, 2003.

Environmental Liabilities: Cleanup Costs From Certain DOD Operations Are Not Being Reported. GAO-02-117. Washington, D.C.: December 14, 2001.

Environmental Liabilities: DOD Training Range Cleanup Cost Estimates Are Likely Understated. GAO-01-479. Washington, D.C.: April 11, 2001.

Department of Energy: National Priorities Needed for Meeting Environmental Agreements. GAO/RCED-95-1. Washington, D.C.: March 3, 1995.

Federal Facilities: Agencies Slow to Define the Scope and Cost of Hazardous Waste Site Cleanups. GAO/RCED-94-73. Washington, D.C.: April 15, 1994.

DOD Supply Chain Management

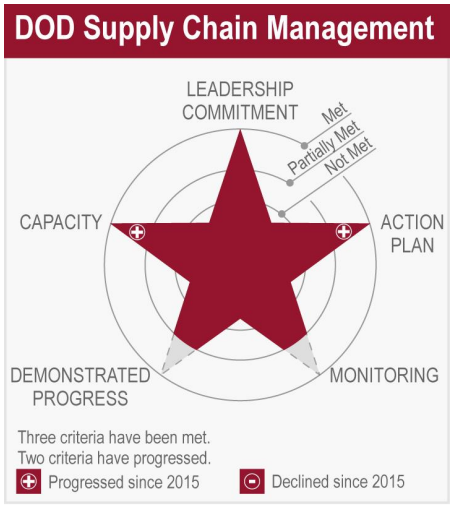
Why Area Is High Risk

The Department of Defense (DOD) manages about 4.9 million secondary inventory items, such as spare parts, with a reported value of $91.7 billion as of September 2015. Effective and efficient supply chain management is critical for supporting the readiness and capabilities of the force and for helping to ensure that DOD avoids spending resources on unneeded inventory that could be better applied to other defense and national priorities. However, DOD has experienced weaknesses in the management of its supply chain, particularly in the following areas:

- **Inventory management.** DOD's inventory management practices and procedures have been ineffective and inefficient. DOD has experienced high levels of inventory that were in excess of requirements and weaknesses in accurately forecasting the demand for inventory items.
- **Materiel distribution.** DOD has faced challenges in delivering supplies and equipment, including not meeting delivery standards and timelines for cargo shipments as well as not maintaining complete delivery data for surface shipments.
- **Asset visibility.** DOD has had weaknesses in maintaining visibility of supplies, such as problems with inadequate radio-frequency identification information to track all cargo movements.

We added supply chain management to the High-Risk List in 1990. In our February 2015 update, we reported that DOD had made moderate progress in addressing weaknesses in supply chain management, but had not resolved several long-standing problems. For example, DOD had not developed a corrective action plan to address materiel distribution weaknesses or performance metrics based on reliable data to assess performance across the entire distribution pipeline. With respect to asset visibility, DOD had not fully developed performance measures that will effectively ensure that the department's initiatives improve asset visibility.

What GAO Found



Source: GAO analysis. | 2017 High Risk List GAO-17-317

Since our February 2015 high-risk update, DOD has made progress in addressing all three dimensions of its supply chain management: inventory management, materiel distribution, and asset visibility. For inventory management, DOD has met all five high-risk criteria. For this reason, we are removing inventory management from the supply chain management high-risk area. For materiel distribution, DOD has continued to demonstrate leadership commitment and capacity and has developed a corrective action plan to guide and direct the department's efforts to improve materiel distribution support to the warfighter. However, work remains to fully meet the monitoring and demonstrated progress high-risk criteria. For asset visibility, DOD has continued to meet the leadership commitment criteria and has met the capacity and corrective action plan criteria—the latter in fiscal year 2015 by updating and implementing the Strategy for Improving DOD Asset Visibility (Strategy). However, additional actions are needed to fully meet the remaining two criteria—monitoring and demonstrated progress. In a December 2016 letter from the Under Secretary of Defense for Acquisition, Technology, and Logistics to the Chairman of the Committee on Oversight and Government Reform, U.S. House of Representatives, the department generally agreed with our assessment of progress made and outlined ongoing and planned actions to address the remaining issues.

What Remains to Be Done

Materiel Distribution

In October 2014, we provided DOD with a letter that outlined six actions and outcomes that we believe it should address in order to mitigate or resolve long-standing weaknesses in materiel distribution and address the criteria for removal from the High-Risk List. Based on discussions with DOD officials and recent efforts across the department as of November 2016, we believe that DOD has addressed three of the six actions and outcomes. Specifically, DOD has addressed the actions and outcomes associated with the action plan criterion by developing the Materiel Distribution Improvement Plan (Improvement Plan) that contains implementation goals and timelines that will guide its effort to identify gaps and root causes with respect to the performance of the entire distribution pipeline. However, DOD still needs to address the three remaining actions and outcomes from the October 2014 letter that are related to monitoring and demonstrating progress. Additionally, based on our review of DOD's efforts to improve materiel distribution, we are adding an additional action focused on ensuring DOD refines and updates its actions in the Improvement Plan based on interim progress and results, which results in four remaining actions and outcomes that need to be addressed for removal of materiel distribution from the High-Risk List. Going forward, DOD needs to show measureable and sustained positive outcomes addressing the remaining four actions and outcomes.

Monitoring

DOD should

- make progress in developing its suite of distribution performance metrics, improving the quality of data underlying those metrics, and sharing metrics information among stakeholders;
- integrate distribution metrics data, including cost data, from the combatant commands and other DOD components, as appropriate, on the performance of all legs of the distribution system, including the tactical leg; and
- refine existing actions in the Improvement Plan or incorporate additional actions based on interim progress and results, and update the Improvement Plan accordingly.

Demonstrated Progress

DOD should

- demonstrate that the actions implemented under its Improvement Plan improve its capability to comprehensively measure distribution performance, identify distribution problems and root causes, and identify and implement solutions.

Asset Visibility

Our October 2014 letter to DOD outlined seven actions and outcomes that we believe it should address in order to mitigate or resolve long-standing weaknesses in asset visibility and address the criteria for removal from the High-Risk List. Based on discussions with DOD officials and recent efforts across the department as of January 2017, we believe that DOD has addressed five of the seven actions and outcomes. Specifically, DOD has addressed the actions and outcomes associated with the capacity and action plan criteria by the department providing additional direction to the components on formulating cost estimates and the components implementing that direction in developing its cost estimates for the asset visibility initiatives.

Additionally, DOD linked the goals and objectives of the Strategy with the specific initiatives intended to implement the Strategy, established a mechanism for periodically assessing the initiatives, and implemented numerous initiatives. Based on our review of DOD's efforts to improve asset visibility, we are adding an additional action aimed at improving the monitoring of the individual improvement initiatives, which results in three remaining actions and outcomes that need to be addressed for removal of asset visibility from the High-Risk List. Going forward, DOD needs to show measureable and sustained positive outcomes in addressing these remaining three actions and outcomes.

Monitoring

DOD should

- assess, and refine as appropriate, performance measures by, for example, incorporating the attributes (e.g., clear, quantifiable, objective, and reliable) of successful performance measures; and

- take steps to incorporate into after-action reports information relating to performance measures for the asset visibility initiatives.

Demonstrated Progress

DOD should demonstrate sustained progress in having implemented the initiatives that result in measurable outcomes and progress towards realizing the goals and objectives in the Strategy.

Additional Details on What GAO Found

Inventory Management

Source: GAO analysis. | 2017 High Risk List GAO-17-317

Leadership Commitment

Senior officials, such as the Deputy Assistant Secretary of Defense for Supply Chain Integration (DASD(SCI)), have continued to demonstrate commitment and top leadership support for addressing the department's inventory management challenges. These officials have taken actions, such as establishing a performance management framework to monitor and implement its corrective action plan since 2010 and revising inventory management policy and guidance, to institutionalize this commitment to help ensure the long-term success of the department's efforts. In addition, senior DOD officials have met with us to discuss the department's plans

and progress in addressing inventory management challenges, and we have provided feedback on the department's efforts.

Capacity

DOD has continued to demonstrate that it has the capacity—personnel and resources—to strengthen inventory management. DOD has continued to use structured working groups, which include representatives from each of the military services and the Defense Logistics Agency (DLA), to address inventory management weaknesses. Furthermore, DOD has dedicated financial resources to evaluating aspects of inventory management that need improvement, such as commissioning studies designed to improve forecasting for spare parts.

Action Plan

DOD has continued to implement its corrective action plan, established in fiscal year 2010, that had actions and goals scheduled through fiscal year 2016, and has developed a follow-on improvement plan to guide efforts through 2020. As noted in our February 2015 update, DOD established overarching goals to reduce "on-order excess inventory" (i.e., items that have already been purchased but may be excess due to changes in requirements) and "on-hand excess inventory" (i.e., items that have been categorized for potential reuse or disposal). Additionally, DOD's actions in its original and follow-up plans address key root causes of weaknesses in its inventory management, such as excess inventory and demand forecasting for spare parts. Since our February 2015 update, DOD has continued to implement actions associated with the plan across a number of areas of inventory management, such as demand forecasting, and has developed and begun implementing a follow-on improvement plan with actions and milestones intended to guide the department's improvement efforts through 2020.

Monitoring

DOD has continued to use a performance management framework, including metrics and milestones, to track the implementation and effectiveness of the areas of inventory management included in the corrective action plan. The DASD(SCI) oversees implementing the corrective action plan and monitors performance on the associated metrics through progress review meetings with representatives from the military services and DLA. The meetings are held about monthly.

Demonstrated Progress

Since fiscal year 2010, DOD has demonstrated sustained progress sufficient to remove the inventory management area from the supply chain management high-risk category. Specifically, DOD has demonstrated progress in the following four key areas of inventory management, and used our findings and implemented our recommendations to improve the department's management of inventory:

- **Reducing excess inventory:** Since fiscal year 2009, DOD has reduced the percentage and value of its on-order excess inventory—items already purchased that may be excess due to subsequent changes in requirements—and its on-hand excess inventory—items categorized for potential reuse or disposal. DOD's data show that the proportion of on-order excess inventory to the total amount of on-order inventory decreased from 9.5 percent at the end of fiscal year 2009 to 7.0 percent at the end of fiscal year 2015, the most recent fiscal year for which data is available. During these years, the value of on-order excess inventory also decreased from $1.3 billion to $701 million. DOD's data show that the proportion of on-hand excess inventory to the total amount of on-hand inventory dropped from 9.4 percent at the end of fiscal year 2009 to 7.3 percent at the end of fiscal year 2015. The value of on-hand excess inventory also decreased during these years from $8.8 billion to $6.8 billion. DOD plans to continue to monitor the amount of excess inventory in its follow-on improvement plan.
- **Revising policy and guidance:** DOD has made key revisions to its inventory management policy and guidance. Based on analysis conducted as part of its corrective action plan, the department updated its main supply chain management policy in February 2014. The update strengthened its guidance for on-order excess inventory, the management of "retention stock" (i.e., inventory calculated to be more economical to keep than to dispose of and repurchase because it will likely be needed in the future or inventory retained to support specific contingencies), and demand forecasting. DOD subsequently continued to update aspects of the guidance, such as adding requirements associated with overseeing contractor-managed inventory in August 2015. DOD also developed and implemented, in March 2016, a guide that standardizes inventory management metrics across the services and DLA. Lastly, DOD developed and began implementing plans to update its policy and guidance as it continues to oversee inventory management through its follow-on improvement plan.

- **Addressing demand forecasting weaknesses:** As we noted in our February 2015 update, DOD has taken actions to improve the accuracy of its demand forecasting for spare parts in an effort to address a key root cause of both excess inventory and parts shortages. First, in fiscal years 2010 through 2014, DOD reviewed its demand forecasting methods, which led to a number of changes in DOD's guidance to the services and DLA aimed at improving the accuracy of demand forecasting.

  Second, DOD established department-wide forecasting accuracy metrics in 2013. Its key metric helped department officials determine that their forecast accuracy has improved from 46.7 percent in fiscal year 2013 to 57.4 percent in fiscal year 2015, the latest fiscal year for which complete data are available. As of August 2016, since our February 2015 update, DOD has been working to establish procedures, including statistical techniques, for setting appropriate targets to continue to guide improvement in the accuracy of forecasting the demand for spare parts.

  Third, DOD and DLA, in fiscal year 2013, modified approaches for setting inventory levels for over 495,000 consumable items with low or highly variable demand, and continue to monitor the effect of these changes through a suite of performance metrics. The Air Force also is in the process of implementing a similar method for setting levels for reparable items with low demand and is refining an approach for reparable items with variable demand and conducting additional analysis before deciding to implement it.

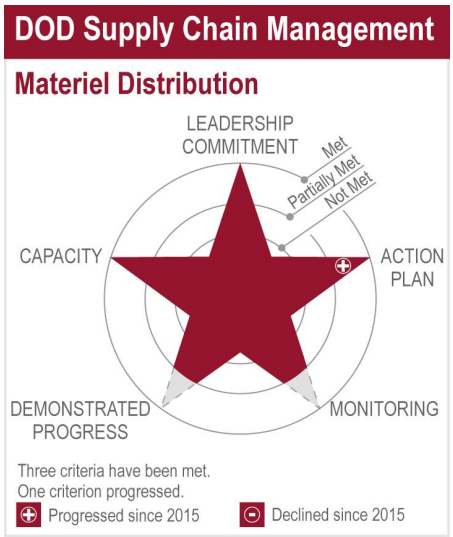
  Fourth, DOD has made progress improving its collaborative forecasting (i.e., using customer input to forecast demand versus relying solely on statistical forecasting methods) for spare parts. Specifically, we found in June 2016 that DLA partnered with the services to improve collaborative forecasting efforts through an analytical, results-oriented approach, such as regularly monitoring key performance metrics. The approach is tailored for each service, and DOD identified in its follow-on improvement plan that it will analyze these different approaches and assess areas for improvement in an effort to further reduce excess inventory and shortages. DLA also designed an additional metric for its collaborative forecasting program to more accurately assess and manage the program and plans to fully implement the metric by July 2017. DOD also is in the process of designing and adopting metrics to assess the accuracy of inventory planning factors, such as the accuracy of part lists that are used to

determine the type and quantity of parts to buy for depot maintenance activities, and plans to implement these metrics by the end of fiscal year 2018.

- **Enhancing the management and oversight of retention stock:** DOD has continued to take actions to improve the management of retention stock across the department. For example, since fiscal year 2009, DOD has monitored the amount of its retention stock relative to on-hand inventory, reviewed and updated its policy and guidance for retention stock, and taken steps to ensure retention stock is managed consistently across the department. Further, in response to our June 2014 recommendation for the DLA Director to dispose of retention stock based on the results of an economic analysis, the Director changed DLA's on-hand inventory reduction goal, which was leading DLA to dispose of items that the department's guidance and DLA's analysis showed were more economical to keep. With respect to "contingency retention stock" (i.e., items retained to support specific contingencies, such as disaster relief or civil emergencies), the department independently assessed its management in March 2011 and implemented resulting recommendations, such as establishing categories and tracking the reasons for retaining contingency retention stock.

Lastly, DOD has used our findings and implemented our recommendations to improve how it manages inventory. Since May 2006, we have made 63 recommendations aimed at improving the efficiency and effectiveness of the department's inventory management. As of January 2017, DOD has implemented 42 of those recommendations and was in the process of taking actions to implement an additional 13 recommendations, which are focused generally on re-assessing inventory goals, improving collaborative forecasting, and making changes to information technology systems used to manage inventory. The remaining eight recommendations were made in fiscal years 2007 and 2009 and focused on improving the management of acquisition lead times for spare parts and oversight of Army and Navy inventory management, respectively. However, these recommendations are no longer relevant given the department's efforts since 2010.

Materiel Distribution



Source: GAO analysis. | 2017 High Risk List GAO-17-317

Leadership Commitment

Senior leaders have continued to demonstrate commitment and support for addressing the department's materiel distribution challenges. In April 2015, DOD established a distribution working group to draft a plan of actions and milestones for improving materiel distribution. The working group is co-chaired by the Office of the Deputy Assistant Secretary of Defense for Supply Chain Integration and the U.S. Transportation Command (USTRANSCOM). Other stakeholders include the Office of the Deputy Assistant Secretary of Defense for Transportation Policy, the military services, the Joint Staff, and DLA. As a result of the working group's efforts, DOD completed its Materiel Distribution Improvement Plan (Improvement Plan), and the Acting Assistant Secretary of Defense for Logistics and Materiel Readiness signed it in September 2016.

According to the Improvement Plan, the Supply Chain Executive Steering Committee will receive regular updates on the progress of the Improvement Plan's implementation. The steering committee is chaired by the Deputy Assistant Secretary for Supply Chain Integration and includes senior-level supply chain stakeholders from across DOD. Under its charter, the steering committee oversees implementation of initiatives designed to improve logistics.

Capacity

DOD has continued to demonstrate that it has the capacity—personnel and resources—to improve materiel distribution. Key organizations in DOD's global distribution system and its associated governance structure are USTRANSCOM, its military components, and DLA. Although the Improvement Plan does not quantify the level of resources required to accomplish corrective actions, it recognizes that some additional resources will likely be needed. With regard to developing a new distribution cost metric, for example, the Improvement Plan states that the metric would require a majority of its data inputs from two principal stakeholders—DLA and USTRANSCOM —and that many inputs can be pulled from existing data sources. However, there are likely other sources of information that must be identified or developed, some of which will require additional resources or processes to capture and validate relevant information that is not currently gathered.

According to the Improvement Plan, the distribution governance structure is expected to provide the resources and staff to complete each recommended action in the Improvement Plan and close any identified performance gaps within the time frame specified. The governance structure includes senior DOD officials. At the top of this structure is the Distribution Process Owner Executive Board, which is chaired by the Commander, USTRANSCOM, and whose members are at the 3-Star or Senior Executive Service (SES) equivalent level. The next most senior body, the Distribution Oversight Council, is chaired by the Deputy Commander, USTRANSCOM, and has members at the 1- and 2-Star and SES equivalent level. The Council is tasked with ensuring that high-priority initiatives and enterprise improvements are pursued, commensurate with authorized resources.

Action Plan

Since our February 2015 high-risk update, DOD has taken steps that meet our high-risk criteria for developing a corrective action plan to address the department's materiel distribution challenges. The Acting Assistant Secretary of Defense for Logistics and Materiel Readiness signed the Improvement Plan in September 2016. According to the Acting Assistant Secretary, the Improvement Plan will guide and direct the department's efforts to improve materiel distribution support to the warfighter by detailing specific goals and actions to better measure the end-to-end distribution process, ensure the accuracy of underlying data

used to measure that process, and strengthen and integrate distribution policies and the governance structure.

The Improvement Plan lists 18 actions divided among 3 lines of effort: (1) metrics and performance, (2) data accuracy, and (3) policy and governance. The intent of these lines of effort and actions is to improve DOD's capability for measuring the performance of its materiel distribution system, enabling continuous process improvement. According to the Improvement Plan, DOD "must be able to measure performance with certainty across the enterprise before it can affect [sic] meaningful improvements in the distribution function." In addition, the Acting Assistant Secretary of Defense for Logistics and Materiel Readiness states in the Improvement Plan that a robust policy and governance structure ensures that DOD can form, implement, and monitor corrective actions that address root causes and close distribution performance gaps once they are identified.

The Improvement Plan provides time frames for completing each of the 18 actions. It calls for 11 of the actions to be completed within 1 year of the Improvement Plan's approval, 4 additional actions to be completed within 2 years of the Improvement Plan's approval, and the remaining 3 actions to be completed within 3 years of the Improvement Plan's approval. Going forward, DOD's Distribution Steering Group will assume responsibility for executing the Improvement Plan. The Distribution Steering Group, part of the distribution governance structure, is co-chaired by staff within USTRANSCOM and DLA.

Monitoring

DOD has partially met this criterion. Through its Improvement Plan, DOD aims to improve its capability to measure the performance of the distribution system by developing a suite of distribution performance metrics, improving the quality of data underlying those metrics, and sharing metrics information among stakeholders. While DOD has numerous distribution metrics in place, a team within the Distribution Working Group determined that five metrics should be included in its new suite of metrics. The selected metrics are aimed at addressing various attributes of the distribution system: responsiveness, reliability, information visibility, and efficiency/cost.

The Improvement Plan's focus on these efforts has the potential, if implemented, to improve DOD's ability to monitor various performance attributes of its distribution system. However, the Improvement Plan

acknowledges that work remains to be done to investigate expanding the use of certain performance metrics, develop other metrics, improve data quality, and change policies to provide greater transparency of performance data and conduct routine reviews of performance metrics.

DOD's Improvement Plan refers to measuring performance for all legs of the distribution system, including the tactical leg. Specifically, one of the goals in the Improvement Plan is for greater transparency of service, agency, and combatant command distribution performance data, including cost data. The Improvement Plan identifies where a policy change could be made to capture and provide such data. However, the Improvement Plan does not specify the nature of data to be collected from the DOD components or how the data would be integrated with other metrics to measure the performance of all legs of the distribution system, including the tactical leg, and allow DOD to comprehensively monitor and oversee the materiel distribution system.

Demonstrated Progress

DOD began implementing its Improvement Plan in 2016. However, it is too early to assess whether implementing its Improvement Plan will result in the necessary demonstrated progress. However, the Improvement Plan is a key step toward meeting this criterion. Specifically, as discussed above, the Improvement Plan is aimed at improving the department's capability to comprehensively measure distribution performance. With a performance measurement system in place, DOD will be better positioned to identify distribution problems, along with root causes and solutions.

DOD has identified next steps for implementing its Improvement Plan. According to the DASD(SCI), the Distribution Working Group (which developed the Improvement Plan) will formulate an approach to completing the Improvement Plan's actions. The Distribution Steering Group will assume responsibility for executing and overseeing the Improvement Plan.

We have previously noted that DOD has made progress in addressing its materiel distribution challenges. For example, DOD was able to improve delivery times for some customers and use available assets more. These efforts, according to DOD officials, resulted in $1 billion in cost avoidances through April 2013. In its Improvement Plan, DOD highlighted initiatives it has taken to improve distribution and noted that efforts to improve asset visibility also benefit materiel distribution. However, challenges remain in addressing materiel distribution weaknesses. As we

reported in 2015, current materiel distribution metrics used by the department do not provide decision makers with a complete representation of performance across the entire global distribution pipeline. Further, although joint doctrine has set efficient and effective distribution "from the factory to the foxhole" as a priority, these metrics do not always include performance for the final destination. In addition, DOD may not have sufficiently reliable data to accurately determine the extent to which it has met the standards it has established for distribution performance. DOD's Improvement Plan is focused on these issues, but it will be important for the department to demonstrate progress in measuring the entire pipeline and ensuring the reliability of its data and measures as implementation of the Improvement Plan evolves.

Asset Visibility

Source: GAO analysis. | 2017 High Risk List GAO-17-317

Leadership Commitment

Senior leaders at the department have continued to demonstrate commitment to addressing the department's asset visibility challenges as evidenced, in part, by DOD issuing, in January 2014 and October 2015, its Strategies for Improving DOD Asset Visibility. The Office of the Deputy Assistant Secretary of Defense for Supply Chain Integration oversees department-wide how the Strategy is developed, coordinated, approved, and implemented, and reviews the implementation of the initiatives. Also, senior leadership commitment is evident in its involvement in efforts to

improve asset visibility through groups such as the Supply Chain Executive Steering Committee—senior-level officials responsible for overseeing asset visibility improvement efforts—and the Asset Visibility Working Group; which includes representatives from the components and other government agencies, as needed; identifies opportunities for improvement; and monitors the implementation of initiatives. Sustained leadership commitment will be critical moving forward as the department continues to implement its Strategies intended to improve asset visibility and associated asset visibility initiatives.

Capacity

DOD now meets this criterion. As we previously reported in February 2013 and continued to report in February 2015 resources and investments should be discussed in a comprehensive strategic plan, to include the costs to execute the plan and the sources and types of resources and investments—including skills, human capital, technology, information and other resources—required to meet established goals and objectives. DOD has demonstrated that it has the capacity—personnel and resources—to improve asset visibility. For example, as we previously noted the department had established the Asset Visibility Working Group that is responsible for identifying opportunities for improvement; and monitoring the implementation of initiatives. The Working Group includes representatives from OSD and the components—Joint Staff, DLA, USTRANSCOM, and each of the military services. Furthermore, DOD's 2015 Strategy calls for the components to consider items such as manpower, materiel, and sustainment costs when documenting cost estimates for the initiatives in the Strategy, as we recommended in January 2015. However, in December 2015 we found that the 2015 Strategy included three initiatives that did not include cost estimates. DOD has taken steps to address this weakness.

Specifically, in December 2016, a DOD official provided an abstract from the draft update to the 2015 Strategy that provides additional direction on how to explain and document cases where the funding for the initiatives is embedded within overall program funding. The draft update notes that there may be instances where asset visibility improvements are embedded within a larger program, making it impossible or cost prohibitive to isolate the cost associated with the specific asset visibility improvements. In these cases, the plan outlining the initiative will indicate that cost information is not available and why. However, if at some point during implementation some or all costs are identified, the information about the initiative will be updated to reflect as such. According to Office

of the Secretary of Defense (OSD) officials, DOD plans to issue the update to the 2015 Strategy in 2017, but a release date has not been determined.

Action Plan

DOD now meets this criterion. The National Defense Authorization Act for Fiscal Year 2014 (NDAA) required DOD to submit to Congress a comprehensive strategy and implementation plans for improving asset tracking and in-transit visibility. The 2014 NDAA, among other things, called for DOD to include in its strategy and plans elements such as goals and objectives for implementing the strategy. The NDAA also included a provision that we assess the extent to which DOD's strategy and accompanying implementation plans include the statutory elements. In January 2014, DOD issued its 2014 Strategy and accompanying implementation plans, which outline initiatives intended to improve asset visibility. DOD updated its 2014 Strategy and plans in October 2015.

We previously reported in February 2013 and continued to report in February 2015 that while the 2014 Strategy and implementation plans serve as a corrective-action plan, there was not a clear link between the initiatives and the Strategy's goals and objectives. We recommended that DOD clearly specify the linkage between the goals and objectives in the Strategy and the initiatives intended to implement the Strategy. DOD implemented our recommendation and updated its 2015 Strategy, which includes matrixes that link each of DOD's ongoing initiatives intended to implement the Strategy to the Strategy's overarching goals and objectives. DOD also added eight new initiatives to its 2015 Strategy and linked each of these efforts to the Strategy's overarching goals and objectives.

Monitoring

DOD partially meets this criterion. As we previously reported in 2013 and continued to report in February 2015, DOD lacked a formal, central mechanism to monitor the status of improvements or fully track the resources allocated to them. We also reported that, while DOD's draft strategy included overarching goals and objectives that address the overall results desired from implementing the strategy, it only partially addressed, among other factors, performance measures, which are necessary for DOD to monitor progress. Since February 2015, DOD has taken some steps to better monitor its improvement efforts. As noted in the 2015 Strategy, DOD described a process that tasks the Asset

Visibility Working Group—a team that oversees the development and execution of DOD's Strategy—to, among other things, review the performance of the component's initiatives during implementation on a quarterly basis. According to OSD officials, they plan to issue an update to the 2015 Strategy, but the release date for this update has not been determined.

The Working Group uses status reports from the DOD components that include information on progress made toward implementation milestones, resources, and funding. DOD also identified performance measures for its asset visibility initiatives. However, the measures for the eight initiatives we reviewed were generally not clear, quantifiable, objective, and reliable. Measures with these attributes can help managers better monitor progress, including determining how well they are achieving their goals and identifying areas for improvement, if needed. Additionally, while the Asset Visibility Working Group has closed initiatives, the Working Group generally did not have information related to performance measures to assess the progress of these initiatives.

As a result, DOD is unable to consistently monitor progress in achieving the Strategies' goals and objectives. In December 2016, a DOD official provided an abstract from the draft update to the 2015 Strategy that noted that detailed metrics data will be collected and reviewed at the level appropriate for the initiative. High-level summary metrics information will be provided to the Working Group in updates to the plan outlining the initiatives. The extent this planned change will affect the development of clear, quantifiable, objective, and reliable performance measures remains to be determined.

Demonstrated Progress

DOD partially meets this criterion. While DOD has made progress developing and implementing the 2014 and 2015 Strategies, the performance measures associated with the eight initiatives we reviewed cannot be used to demonstrate results. DOD reports it has closed or will no longer review the status of 20 of the 27 initiatives from the 2014 and 2015 Strategies and continues to monitor the remaining seven initiatives. Additionally, in October 2016, DOD officials stated that they plan to add 10 new initiatives in its update to the 2015 Strategy, which will be released in 2017, but OSD officials have not determined a date.

However, DOD has not taken steps to consistently incorporate information in after-action reports on initiatives' performance measures to

demonstrate the extent to which progress has been made toward achieving its goals for improving asset visibility. Without clear and quantifiable performance measures and information to support that progress has been made, DOD may not be able to demonstrate that implementing these initiatives resulted in measurable outcomes and progress towards achieving the goals and objectives in the Strategy. Also, DOD will be limited in its ability to demonstrate sustained progress in implementing corrective actions and resolving the high-risk area.

Benefits Achieved by Implementing Our Recommendations

Inventory Management:

- **DOD Developed Metrics Guidance and Uses the Metrics to Monitor the Efficiency and Effectiveness of Its Inventory Management:** In 2012, we found that DOD was developing metrics to assess the effectiveness and efficiency of its inventory management, but that it had not determined if it would incorporate these metrics into guidance. We noted that without guidance specifying standardized definitions, methodologies, and procedures for data collection procedures, DOD's efforts to employ metrics to monitor and evaluate inventory management performance may be hampered.

  To ensure sustained management attention consistent with results-oriented management practices, we recommended that the Secretary of Defense direct the Assistant Secretary of Defense for Logistics and Materiel Readiness to (1) develop and implement guidance that establishes a comprehensive, standardized set of department-wide inventory management metrics, including standardized definitions and procedures for measuring and reporting the metrics, and (2) employ these metrics in periodically monitoring the effectiveness and efficiency of its inventory management practices. Based on our recommendations, the Assistant Secretary of Defense for Logistics and Materiel Readiness developed and issued the Supply Chain Metrics Guide in March 2016. This guide identifies a comprehensive, standardized set of inventory management metrics and identifies each metric's application, definition, business value, data requirements, computational rules, goals and trends analysis, and connections to other related metrics.

  DOD's metric guidance provided the necessary information to ensure that metrics across the services and the DLA are standardized and

can be used to manage the department's inventory. Also, the DASD(SCI) uses these metrics to regularly monitor the department's inventory management practices and outcomes. These actions will allow the department to monitor the effectiveness and efficiency of its inventory management practices across the services and the DLA.

- **The Army Established On-Order Excess Inventory Goals to Guide Performance Improvement:** In our April 2015 report on the military services' inventory management, we found that the Army had not established goals for reducing on-order excess inventory. To improve management and minimize the amount of on-order excess inventory, we recommended that the Secretary of the Army direct the Commander, Army Materiel Command, to develop life-cycle management command-specific goals for the reduction of on-order excess inventory and monitor these goals. Based on our recommendation, in April 2015, the Army established on-order excess inventory goals for its life-cycle management commands and began monitoring its performance against those goals. These actions will provide the Army the ability to better oversee on-order excess inventory and maximize the amount of on-order excess inventory it reduces.
- **The Navy Established Management Reviews to Improve Oversight of On-Order Excess Inventory:** In our April 2015 report on the military services' inventory management, we found that the Navy did not use management reviews of potential on-order excess inventory based on dollar thresholds, as required by DOD guidance, resulting in a lack of oversight of on-order excess inventory. To help ensure the Navy adequately oversees on-order excess termination decisions, we recommended the Secretary of the Navy direct the Commander, Naval Supply Systems Command, to incorporate graduated management reviews based on dollar value thresholds into its current on-order excess inventory termination practices. Based on our recommendation, as of September 2015, the Navy began management reviews based on dollar value thresholds. This action will provide the Navy the ability to better oversee on-order excess inventory, thereby preventing unneeded inventory from being procured.
- **DLA Revised Its Fiscal Year 2014 On-Hand Inventory Goal:** In our June 2014 report on DLA inventory management, we found that DLA, in order to meet its on-hand inventory goal in fiscal year 2013, disposed of $855 million in inventory that its own economic analyses determined should be kept due to the risk DLA will need to buy the same items again in the future. To ensure that DLA does not dispose

of inventory that is more economic to keep, in accordance with DOD guidance, we recommended that the Secretary of Defense direct the Director, DLA, to reassess and, if determined appropriate, revise DLA's inventory reduction goals and schedule to achieve them in a way that minimizes risks and costs of having to buy items again in the long term. Based on our recommendation, in July 2014, DLA re-examined and documented its on-hand inventory reduction goal for fiscal year 2014. As a result of the review, DLA revised its on-hand inventory goal for fiscal year 2014 from $10 billion to about $10.9 billion. Adjusting its goals will result in DLA needing to dispose of less inventory to meet the goals, which reduces the risk DLA may have to buy the same inventory in the future.

- **DLA Incorporated On-Order Excess Inventory Metrics into Senior Management Performance Briefings:** In our June 2014 report on DLA inventory management, we found that DLA senior management did not regularly review on-order excess inventory performance and that performance across DLA's aviation, land, and maritime supply chains varied. To improve management and minimize the amount of on-order excess inventory, we recommended the Secretary of Defense direct the Director, DLA, to regularly monitor progress reducing on-order excess inventory through DLA's senior management performance briefings. Based on our recommendation, in July 2014, DLA began including on-order excess inventory metrics in DLA's Agency Performance Review, which is reviewed quarterly by the DLA Director and monthly by DLA headquarters senior logistics operations managers. As a result of these actions, senior management will oversee on-order excess inventory performance and guide continued improvement managing its on-order inventory.
- **DLA Established and Monitors Supply Chain-Specific On-Order Excess Inventory Goals:** In our June 2014 report on DLA inventory management, we found that DLA had not established supply chain-specific goals for on-order excess inventory and that performance across DLA's aviation, land, and maritime supply chains varied. To improve management and minimize the amount of on-order excess inventory, we recommended the Secretary of Defense direct the Director, DLA, to establish and regularly monitor supply chain-specific on-order excess goals that support DLA minimizing its investment in inventory that is not needed to meet requirements and achieving the DOD goal of 4 percent of the total value of on-order inventory by the end of fiscal year 2016.

  Based on our recommendation, DLA established supply chain-specific goals of 6 percent in July 2014 that were aligned with DOD goals for

fiscal year 2014. In July 2014, DLA also began monitoring supply chain-specific on-order excess inventory performance against DOD's established department wide goals as part of its monthly Agency Performance Reviews. These actions will provide DLA the ability to guide continued improvement in reducing on-order excess inventory as well as monitor supply chain-specific performance against DOD's goals.

- **DLA Is Tracking and Reviewing On-Order Excess Inventory Performance Data:** In our June 2014 report on DLA inventory management, we found that DLA had not consistently tracked and reported data to thoroughly measure its efforts to reduce on-order excess inventory. To improve management and minimize the amount of on-order excess inventory, we recommended the Secretary of Defense direct the Director, DLA, to track and regularly review performance data, such as the amount of on-order excess inventory reviewed, modified, or cancelled, and the reasons for not modifying or cancelling, in its inventory management processes. Based on our recommendation, as of June 2016, DLA implemented a monthly report process that reviews performance cancelling of on-order excess inventory as well as the reasons for decisions to retain or cancel on-order excess contracts. As part of this review process, DLA reports bi-annually on the status of its on-order excess inventory, specifically the reasons for retaining on-order excess contracts. These actions will provide DLA the ability to better oversee on-order excess inventory, including tracking and monitoring the reasons for retaining on-order excess inventory.

Asset Visibility:

- **DOD Made Clear the Linkage between Its Goals and Objectives and Its Asset Visibility Initiatives:** In our January 2015 report on DOD's efforts to improve asset visibility, we found that DOD's 2014 Strategy included goals and objectives, but these goals and objectives were not linked with the initiatives. We recommended that DOD clearly specify the linkage between the goals and objectives in the Strategy and the initiatives intended to implement the Strategy. In October 2015, DOD issued its 2015 update to its Strategy, which included graphics showing a summary of the initiatives and their alignment to the Strategy's goals and objectives. As a result of making apparent the alignment between its goals and objectives in the 2015 Strategy and the initiatives intended to implement them, DOD should be better positioned to assess progress toward realizing its goals and objectives.

- **DOD Included the Elements Considered in Its Cost Estimates for Asset Visibility Initiatives:** In our January 2015 report on DOD's efforts to improve asset visibility, we found that DOD's Strategy did not specify the specific elements included in its cost estimates, such as human capital, information, and other resources required to meet the goals and objectives. That is, the components provided cost estimates in the plans outlining the initiatives, but generally at an aggregate level without details of the elements included.

  We recommended DOD include this information in subsequent updates to its Strategy. As a result, in its 2015 update to its Strategy, DOD provided direction instructing the components to include cost estimates in their plans outlining the initiatives and to include at least the categories of manpower, materiel, and sustainment in these estimates of cost. As a result of updating its Strategy to require the components to include information on the specific elements included in cost estimates, DOD gains insights on the elements considered in developing the cost estimates and the level of detailed cost information it needs to make well-informed decisions about asset visibility.

GAO Contact

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Related GAO Products

Defense Inventory: Further Analysis and Enhanced Metrics Could Improve Service Supply and Depot Operations. GAO-16-450. Washington, D.C.: June 9, 2016.

Defense Logistics: DOD Has Addressed Most Reporting Requirements and Continues to Refine its Asset Visibility Strategy. GAO-16-88. Washington, D.C.: December 22, 2015.

Defense Inventory: Services Generally Have Reduced Excess Inventory, but Additional Actions Are Needed. GAO-15-350. Washington, D.C.: April 20, 2015.

Defense Logistics: Improvements Needed to Accurately Assess the Performance of DOD's Materiel Distribution Pipeline. GAO-15-226. Washington, D.C.: February 26, 2015.

Defense Logistics: DOD Has a Strategy and Has Taken Steps to Improve Its Asset Visibility, but Further Actions Are Needed. GAO-15-148. Washington, D.C.: January 27, 2015.

Defense Inventory: Actions Needed to Improve the Defense Logistics Agency's Inventory Management. GAO-14-495. Washington, D.C.: June 19, 2014.

DOD Weapon Systems Acquisition

Why Area Is High Risk

In March 2016, we reported that the Department of Defense (DOD) expects to invest $1.4 trillion (fiscal year 2016 dollars) to develop and procure its portfolio of 79 major defense acquisition programs. Congress and DOD have long sought to improve how major weapon systems are acquired, yet many DOD programs fall short of cost, schedule, and performance expectations, meaning DOD pays more than anticipated, can buy less than expected, and, in some cases, delivers less capability to the warfighter. With the prospect of slowly-growing or flat defense budgets for years to come, DOD must get better returns on its weapon system investments and find ways to deliver capability to the warfighter on time and within budget.

What GAO Found

Source: GAO analysis. | 2017 High Risk List GAO-17-317

Top leadership at DOD is committed to improving the way DOD acquires weapon systems. Since we added this area to our High-Risk List in 1990, DOD has made progress in addressing challenges, such as through the

Better Buying Power initiatives outlined by the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics since 2010. Although DOD lacks a comprehensive action plan for fully addressing this high-risk area and its root causes, the Better Buying Power initiatives are a step in the right direction, as DOD has prescribed a number of concrete changes. DOD has partially met the criteria for monitoring by issuing a series of annual performance reports on the portfolio of major defense acquisition programs. In 2016, DOD issued the fourth report in this series. Continuing and expanding this series of reports should help DOD measure its progress over time.

DOD has partially met the criteria for capacity by, for example, updating some policies to enable better outcomes and assessing the acquisition workforce. However, we remain concerned about whether DOD will fully implement its proposed reforms or continue to track progress in meeting workforce goals, as DOD has, in the past, failed to convert policy into practice. DOD has partially met the criteria for demonstrating progress as it relates to the cost and schedules of its weapon programs. Although we reported in March 2016 on the progress many DOD programs are making in reducing their cost, as demonstrated by improvements when measured against cost-growth targets, individual weapon programs are still not conforming to best practices for acquisition, or implementing key acquisition reforms and initiatives that could prevent long-term cost and schedule growth.[1]

Our work reveals that, while there is still cost and schedule growth in major defense acquisition programs, DOD is making progress in decreasing the amount of cost growth realized in the portfolio as a whole. In March 2016, we reported that the total acquisition cost of DOD's fiscal year 2015 portfolio of 79 programs decreased by $2.5 billion from the previous year.[2] The decrease, however, was due primarily to reductions in a few programs. The majority of individual programs, 42 of the 79, increased in cost.

In terms of schedule, the time it took to deliver initial capabilities to the warfighter increased, on average, an additional 2.4 months. Our analysis also showed evidence that DOD made progress in improving efficiencies in its programs from 2014 to 2015. When we account for increased costs

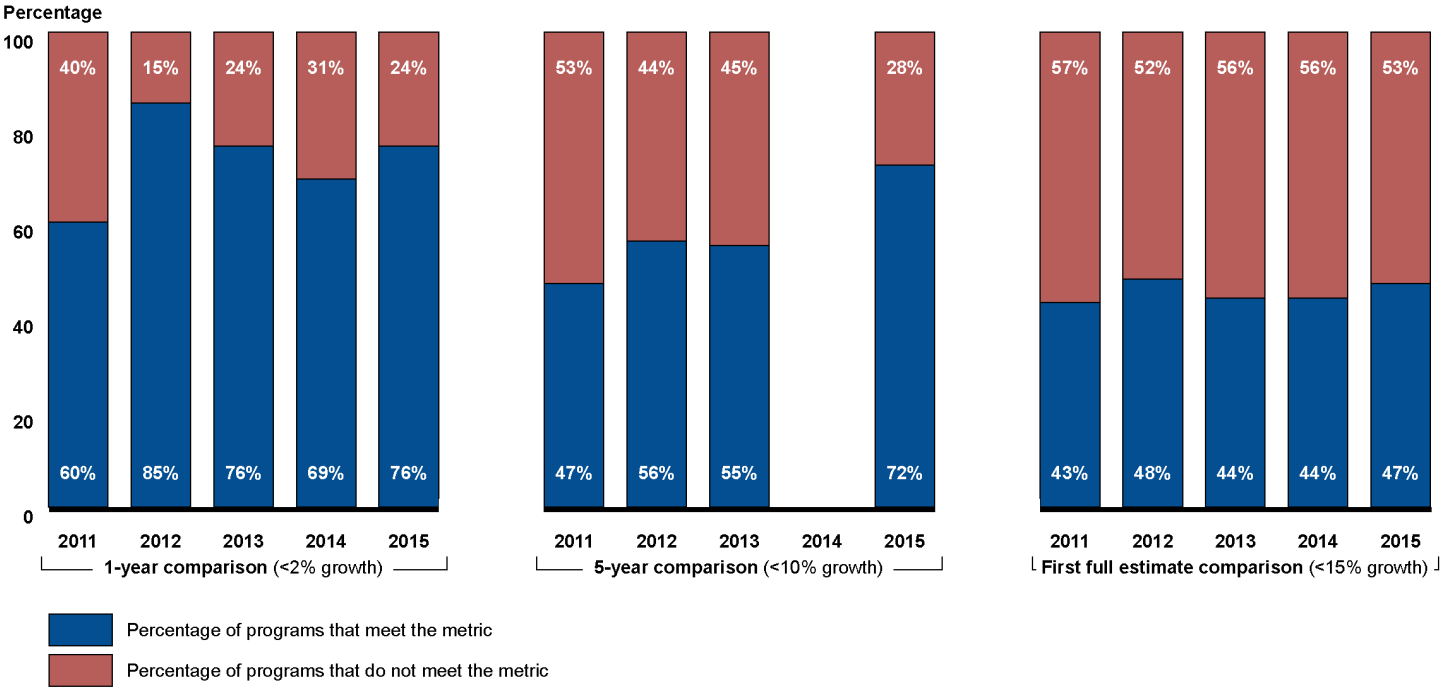
[1]GAO, *Defense Acquisitions: Assessments of Selected Weapon Programs*, GAO-16-329SP (Washington, D.C.: Mar. 31, 2016).

[2]GAO-16-329SP.

attributable to increased program quantity, 38 programs improved their buying power—that is, the amount of goods procured for dollars spent.

DOD's major acquisition programs also showed some improvement when measured against the three cost-growth targets we have used to measure DOD's progress in the weapon system acquisition high-risk area since 2011. Most notably, 72 percent of programs meet the threshold for less than 10 percent growth over the past 5 years, and 76 percent meet the threshold for less than 2 percent growth in the past year, both an improvement over past assessments (see figure 18).[3]

Figure 18: Comparison of the Cost Performance of DOD's 2011-2015 Portfolios



Source: GAO analysis of DOD data. | GAO-17-317

Note: For the 2014 portfolio we did not calculate a 5-year comparison as there were no December 2008 Selected Acquisition Reports issued.

[3]In December 2008 we, DOD, and the Office of Management and Budget discussed a set of cost growth metrics and goals to evaluate DOD's progress on improving program performance for purposes of our high-risk report. These metrics were designed to capture total cost-growth performance over 1- and 5-year periods as well as from the original program estimate on a percentage basis, as opposed to dollar amount to control for the differences in the amount of funding among programs. DOD no longer supports the use of these metrics. We continue to believe that the current metrics have value.

In addition, Congress has been working to reform the process for acquiring weapon systems for several years. In the National Defense Authorization Acts (NDAA) for just the past 5 years, for example, Congress has enacted the following reforms, among others:

- In the 2013 NDAA, Congress introduced measures to control costs on acquisition programs by requiring DOD to limit the use of cost-type contracts for production, and to open programs to competition at the subcontract level.
- In the 2014 NDAA, Congress expanded requirements for cost reporting by requiring DOD to include additional cost and schedule estimates in its annual reports to Congress.
- In the 2016 NDAA, Congress made numerous reforms to the acquisition process including requiring more close involvement of the service chiefs; requiring DOD to report on efforts to streamline the requirements, acquisition, and budgeting processes; stipulating the use and contents of an acquisition strategy; and reducing the number of certifications required for programs at milestone reviews.
- In the 2017 NDAA, Congress enacted reforms to require modular open system approaches in major programs, further ensure the achievement and reporting of program goals, modify requirements for independent cost estimates, and reorganize the acquisition authority within the Office of the Secretary of Defense.

What Remains to Be Done

At this point, DOD needs to build on existing reforms—not necessarily revisiting the process itself but augmenting it by tackling incentives. Based on our extensive body of work in weapon systems acquisition, DOD could

- examine best practices to integrate critical requirements, resources, and acquisition decision-making processes;
- attract, train, and retain acquisition staff and managers so that they are both empowered and accountable for program outcomes;
- use funding decisions at the start of new programs to reinforce desirable principles such as well-informed acquisition strategies;
- identify significant risks up front and resource them;

- explore ways to align budget decisions and program decisions more closely; and
- investigate tools, such as limits on system development time, to improve program outcomes.

Further, we have open priority recommendations related to four acquisition programs that would benefit from greater attention given the size of DOD's investments in them and their cost, schedule, and performance challenges, including the following:

- In April 2015, we made one priority recommendation for the F-35 Joint Strike Fighter program, that DOD analyze the affordability of the program's current procurement plan that reflects various assumptions about future technical progress and funding availability. DOD stated that it would analyze affordability as part of an internal deliberative process culminating in the services' annual budget request.
- We made one priority recommendation for the Littoral Combat Ship program in July 2014. This recommendation stated that the program should successfully complete key tests—such as shock, anti-air warfare self-defense testing, or final survivability assessments—before contracting for additional ships. The Navy's recent decision to restructure the program alters the timing of our recommendation, but does not change our intent to ensure that the Navy does not continue to commit to additional ships until it demonstrates that it has attained some level of knowledge in key areas, such as ship survivability.
- In September 2013, we made three priority recommendations for the lead ship in the Ford-class aircraft carrier fleet, designated as CVN 78. DOD should explore capability trade-offs, update the Ford-class program's test and evaluation master plan to allot sufficient time for testing, and adjust the post-delivery test schedule to ensure that system integration testing is completed prior to operational testing. DOD has made progress in implementing these recommendations by, for example, completing a cost-benefit analysis to determine the acquisition strategy for the follow-on ship. DOD, however, failed to fully explore capability trade-offs, and it remains to be seen whether additional time has been allotted to complete testing, as an updated test and evaluation master plan has not been approved.
- We made two priority recommendations in April 2013 for the Missile Defense Agency and its programs. We recommended that the agency both stabilize its acquisition baselines to enable meaningful comparisons over time and make its cost estimates more comprehensive by including military services' operation and support

costs. While DOD generally concurred with our recommendations, the Missile Defense Agency's baselines continue to change, and agency decision makers still have not been informed of full program costs.

Finally, Congress has an important role to play in advancing weapon system acquisition reform overall, particularly in what it sanctions via funding approvals. Programs that propose optimistic or rushed acquisition strategies represent opportunities for Congress to either maintain or change the defense acquisition culture—a prevailing set of incentives that encourages decisions to go forward with programs before they are ready, and a willingness to accept cost growth and schedule delays as the likely byproduct of such decisions. When programs that do not follow acquisition best practices are denied funding approval, those risky acquisition strategies, in effect, lack congressional sanction.

Additional Details on What GAO Found

Leadership Commitment

DOD has met the criterion for leadership commitment. DOD continues to demonstrate a strong commitment, at the highest levels, to improving the management of its weapon system acquisitions. Over the past 6 years, the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics has implemented a series of efforts for acquisition reform through its Better Buying Power initiative. In January 2015, DOD updated its acquisition instruction, furthering this commitment as it incorporates many of the Better Buying Power initiatives, as well as acquisition reforms from the Weapon Systems Acquisition Reform Act of 2009 and other legislation. These actions are consistent with our past findings and recommendations.

If these initiatives are to have a lasting, positive effect, however, decision makers need to be held accountable for implementing them. Our recent work shows there is much ground yet to cover.

Capacity

DOD has partially met the criterion for capacity. Across the portfolio, DOD has unevenly implemented knowledge-based acquisition practices that might prevent or mitigate cost growth. When we assessed DOD weapon programs in March 2016, we found that while DOD continues to show progress in following a knowledge-based approach to reduce risk, it has

significant room for improvement.[4] While programs that have recently passed through major decision points have demonstrated best practices—such as planning to constrain development times and achieving design stability—key practices like demonstrating technology maturity or controlling manufacturing processes are still not being fully implemented. Of the 17 programs we assessed that had recently passed through one of three key decision points in the acquisition process, only 3 had implemented all of the applicable knowledge-based practices applicable for that decision point. The remaining programs will carry technology, design, and production risks, which increase cost and schedule risks, into subsequent phases of the acquisition process. In March 2016, we also reported that implementation of the Better Buying Power and acquisition reform initiatives varied across programs.[5] While 91 percent of programs successfully implemented "should-cost" initiatives and reported significant cost savings, only 67 percent had established affordability constraints.

In addition, DOD has not completely implemented the direction to improve competition. Of the 12 future programs we assessed in our March 2016 report on selected weapon programs, half did not plan to conduct competitive prototyping before the start of development, and many current programs did not have acquisition strategies to ensure competition through the end of production. Eight current programs reported that they will not take actions to promote any competitive measures before or after development start.

A significant element of capacity is whether the agency has the workforce in place to resolve risks. DOD has made some progress in managing its acquisition workforce. Specifically, in October 2016, DOD issued its updated acquisition workforce strategic plan which, among other things, assessed the current capability of the workforce and identified risks that DOD needed to manage to meet future needs. DOD acknowledged, however, that it will need to develop and implement metrics to track progress towards meeting the four strategic goals identified in its October 2016 strategic workforce plan. Further, the workforce plan does not establish specific career field goals or targets, which will hinder efforts to ensure DOD has the right people with the right skills to meet future needs.

[4]GAO-16-329SP.

[5]GAO-16-329SP.

Action Plan

DOD has partially met the criterion for an action plan as it lacks a comprehensive action plan for fully addressing this high-risk area and its root causes, but addresses some of these issues in its Better Buying Power initiatives. Better Buying Power outlines some steps DOD can take across its acquisition portfolio to achieve better results. These initiatives include measures such as setting and enforcing affordability constraints, instituting a long-term investment plan for portfolios of weapon systems, implementing “should cost” management to control contract costs, and eliminating redundancies within portfolios. The initiatives also emphasize the need to adequately grow and train the acquisition workforce.

Monitoring

DOD has partially met the criterion for monitoring progress. In December 2008, we, DOD, and the Office of Management and Budget discussed a set of cost growth metrics and goals to evaluate DOD’s progress on improving program performance for purposes of our high-risk report. These metrics were designed to capture total cost-growth performance over 1- and 5-year periods as well as from the original program estimate on a percentage basis, as opposed to dollar amount to control for the differences in the amount of funding among programs. DOD no longer supports the use of these metrics. We continue to believe that the current metrics have value.

DOD has made some progress in its efforts to assess the root causes of poor weapon system acquisition outcomes, and monitor the effectiveness of its actions to improve how it manages weapon systems acquisition. In 2016, DOD issued the fourth in what is promised to be an annual series of performance reports on its portfolio of major defense acquisition programs. The report examines a wide range of acquisition-related information, such as contract type, contractor incentives, and the effects of statutes and policies to determine if there is any statistical correlation between these factors and good or poor acquisition outcomes. The report is a good step, but DOD needs to continue to refine and enhance this reporting. In addition, the department or Congress should formalize a requirement for the report to ensure it continues despite changes in leadership.

Demonstrated Progress

DOD has partially met the criterion for demonstrating progress. As we reported in March 2016, many DOD programs are making progress reducing costs, as demonstrated by improvements when measured against cost-growth targets.[6] However, individual weapon programs are still not conforming to best practices for acquisition or implementing key acquisition reforms and initiatives that could prevent long-term cost and schedule growth.

Benefits Achieved by Implementing Our Recommendations

Over the past 4 fiscal years, our analyses of DOD's weapon system acquisitions have resulted in nearly $30 billion in financial savings. We have reported on the F-35 Joint Strike Fighter (JSF) program, DOD's most expensive aircraft acquisition, for over a decade. A recurring theme in this body of work has been the program's very aggressive and risky acquisition strategy, particularly the substantial concurrency, or overlap, among development, testing, and production activities. We repeatedly cautioned against procuring large quantities of aircraft before the system design was stable, performance verified through testing, and the manufacturing process capable of efficiently building aircraft at the planned production rates.

We made numerous recommendations aimed at reducing annual procurements, delaying plans to accelerate production, and focusing more time and resources on system development and testing.[7] We amplified this message in annual "Quick Look" reports, congressional

[6]GAO-16-329SP.

[7]GAO, *Joint Strike Fighter: Restructuring Places Program on Firmer Footing, but Progress Still Lags,* GAO-11-325 (Washington, D.C.: Apr. 7, 2011); *Joint Strike Fighter: Additional Costs and Delays Risk Not Meeting Warfighter Requirements on Time*, GAO-10-382 (Washington, D.C.: Mar. 19, 2010); and *Joint Strike Fighter: Accelerating Procurement before Completing Development Increases the Government's Financial Risk,* GAO-09-303 (Washington, D.C.: Mar. 12, 2009).

testimonies, and numerous budget justification reviews.[8] Defense officials acknowledged the concurrency in the JSF acquisition strategy, but stated that the risks were manageable.

DOD's position started to change, however, after years of cost growth and schedule delays. Consistent with our findings and recommendations, DOD decreased near-term procurement quantities by 103 aircraft for fiscal years 2013 and 2014 at a budgeted savings of about $9 billion, and by 187 aircraft for fiscal years 2015 through 2017 at a budgeted savings of about $12 billion. Congressional defense committees have depended on our work to provide accurate and realistic information to inform the ongoing debate on the F-35, and both congressional leaders and top DOD officials have noted that we were right about concurrency and the need to decrease annual aircraft purchases.

In addition, as part of our annual work on the Ballistic Missile Defense System and assessments of defense-wide funding requests for research, development, test and evaluation, and procurement, we reported to Congress several times from March 2011 to April 2013 on the high acquisition risks and lack of analysis supporting the Precision Tracking Space System (PTSS). PTSS was designed as a satellite system to track ballistic missiles. We found that the program had developed an optimistic acquisition approach, including elevated levels of concurrency, and faced significant design challenges. This approach would have precluded demonstrations that the laboratory satellite design worked as intended before the Missile Defense Agency committed to industry-built satellites. DOD canceled the PTSS program in 2013 because of concerns with the program's high-risk acquisition strategy and technical challenges that we

[8]GAO, *F-35 Joint Strike Fighter: Development of New Capabilities Requires Continued Oversight*, GAO-16-634T (Washington, D.C.: Apr. 26, 2016); *Defense Acquisitions: Assessments of Selected Weapon Programs*, GAO-16-329SP (Washington, D.C.: Mar. 31, 2016); *F-35 Joint Strike Fighter: Observations on Program Progress*, GAO-15-429T (Washington, D.C.: Apr. 14, 2015); *Defense Acquisitions: Assessments of Selected Weapon Programs*, GAO-15-342SP (Washington, D.C.: Mar. 12, 2015; *F-35 Joint Strike Fighter: Slower Than Expected Progress in Software Testing May Limit Initial Warfighting Capabilities*, GAO-14-468T (Washington, D.C.: Mar. 26, 2014; *Defense Acquisitions: Assessments of Selected Weapon Programs*, GAO-14-340SP (Washington, D.C.: Mar. 31, 2014).

raised, saving approximately $2.7 billion in planned funding for fiscal years 2014 through 2018.[9]

GAO Contact

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Related GAO Products

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[9]GAO, *Missile Defense: Opportunity to Refocus on Strengthening Acquisition Management*, GAO-13-432 (Washington, D.C.: Apr. 26, 2013); *Missile Defense: Opportunity Exists to Strengthen Acquisitions by Reducing Concurrency*, GAO-12-486 (Washington, D.C.: Apr. 20, 2012); Missile Defense: Actions Needed to Improve Transparency and Accountability, GAO-11-372 (Washington, D.C.: Mar. 24, 2011).

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DOD Financial Management

Why Area Is High Risk

Since 2015, the Department of Defense's (DOD) progress in improving its financial management processes and operations has been mixed. Without reliable, useful, and timely financial information, DOD is severely hindered in making sound decisions affecting the department's operations.

DOD financial management was first added to our High-Risk List in 1995. Long-standing, uncorrected deficiencies with DOD's financial management systems, business processes, financial manager qualifications, and material internal control and financial reporting weaknesses continue to negatively affect DOD's ability to manage the department and make sound decisions on mission and operations. Having sound financial management practices and reliable, useful, and timely financial and performance information is important to help ensure accountability over DOD's extensive resources and efficiently and economically manage the department's assets and budgets. This is particularly important because DOD's reported discretionary spending makes up about half of the federal government's reported discretionary spending, and its reported assets represent more than 70 percent of the federal government's reported physical assets. However, DOD remains one of the few federal entities that cannot demonstrate its ability to accurately account for and reliably report its spending or assets. DOD's financial management problems remain one of three major impediments preventing us from expressing an opinion on the consolidated financial statements of the federal government.

The effects of DOD's financial management problems extend beyond financial reporting. Long-standing internal control deficiencies have adversely affected the economy, efficiency, and effectiveness of operations. For example, as we have reported, DOD's financial management problems have contributed to (1) inconsistent and sometimes unreliable reports to Congress on weapon system operating and support costs, limiting the visibility that Congress needs to effectively oversee weapon system programs; and (2) an impaired ability to make cost-effective choices, such as deciding whether to outsource specific activities or how to improve efficiency through technology. DOD's efforts

to improve its financial management have been impaired by its decentralized environment; cultural resistance to change; lack of skilled financial management staff; lack of effective processes, systems, and controls; incomplete corrective action plans (CAP); and ineffective monitoring and reporting.

Effective financial management is also fundamental to achieving DOD's broader business transformation goals. However, given DOD's decentralized environment and hundreds of nonstandard financial management business processes and systems, DOD anticipates it will take several years of effort before it will reach these goals. Current budget constraints and fiscal pressures make the reliability of DOD's financial information and its ability to maintain effective accountability for its resources increasingly important to the federal government's ability to make sound decisions about allocating resources.

The Army, Navy, and Air Force underwent audits of their respective Schedules of Budgetary Activity (Budgetary Schedules) for fiscal years 2015 and 2016.[1] However, all three of the independent public accountants (IPA) that performed these audits issued disclaimers, meaning that the IPAs were not able to complete their work or issue an opinion because they lacked sufficient evidence to support the amounts presented. These IPAs also identified material weaknesses in internal control at the three military services and collectively issued hundreds of findings and recommendations. As of the end of fiscal year 2016, 700 IPA findings and recommendations related to the three military services' fiscal years 2015 and 2016 Budgetary Schedules remained open. These weaknesses included the military services' inability to, among other things, reasonably assure that the Budgetary Schedules reflected all of the relevant financial transactions that occurred and that documentation was available to support such transactions.

The results of these audits illustrate the significant amount of work that remains for DOD to have reliable, useful, and timely financial management and performance information for decision making on its mission and operations. In addition, DOD officials reported in the

[1]Unlike the Statement of Budgetary Resources (SBR), which reflects multiple-year budget activity, the military services' Budgetary Schedules reflect the balances and associated activity related only to funding from fiscal year 2015 forward. As a result, the Budgetary Schedules exclude unobligated and unexpended amounts carried over from funding prior to fiscal year 2015, as well as information on the status and use of such funding (e.g., obligations incurred and outlays) in fiscal year 2015 and thereafter.

November 2016 Financial Improvement and Audit Readiness (FIAR) Plan Status Report that the department anticipates receiving disclaimers of opinion on its full financial statements for several years but emphasized that being subject to audit will help the department make progress.[2]

What GAO Found

Source: GAO analysis. | 2017 High Risk List GAO-17-317

Since 2015, DOD's progress in improving its financial management processes and operations has been mixed. DOD has made partial progress toward demonstrating leadership commitment and developing capacity and action plans. For example, DOD continues its efforts to address its financial management challenges through (1) updating the FIAR Guidance related to service providers, financial reporting of property, and seven critical capabilities for full audit readiness; (2) implementing training programs to build a skilled financial management workforce; and (3) developing a number of action plans. However, DOD continues to face challenges in monitoring corrective actions and demonstrating progress.

[2]Congress mandated in the National Defense Authorization Act (NDAA) for Fiscal Year 2010 that DOD develop and maintain a FIAR Plan that includes the specific actions to be taken and costs associated with (1) correcting the financial management deficiencies that impair DOD's ability to prepare complete, reliable, and timely financial management information and (2) ensuring that DOD's financial statements are validated as ready for audit not later than September 30, 2017. Pub. L. No. 111-84, § 1003(a),123 Stat. 2190, 2439-40 (Oct. 28, 2009), *codified* at 10 U.S.C. § 2222 note. DOD is required to provide semi-annual reports to the congressional Defense committees on the status of the implementation of the FIAR Plan.

In furtherance of financial management reform, Congress took the following actions during fiscal years 2013 through 2016:

- The National Defense Authorization Act (NDAA) for Fiscal Year 2013 established certain requirements for the FIAR Plan, including actions to be taken to ensure that DOD's Schedule of Budgetary Resources is validated as ready for audit not later than September 30, 2014, and an assessment of readiness for the SBR audit.
- The NDAA for Fiscal Year 2014 mandated an audit of DOD's fiscal year 2018 full financial statements, and that the results be submitted to Congress not later than March 31, 2019.
- Further, the NDAA for Fiscal Year 2016 had several relevant financial management provisions that, among other things
  - required coordination with the Federal Accounting Standards Advisory Board to establish accounting standards to value large and unordinary general property, plant, and equipment items no later than September 30, 2017;
  - required the Secretary of Defense to report to Congress, ranking the military departments and defense agencies in order of how advanced they are in achieving auditable financial statements;
  - provided for DOD Office of Inspector General (OIG) involvement in each DOD component's annual audit, including obtaining an audit of each component by an independent external auditor, participating in selecting the auditors, and monitoring the audits;
  - required the financial audit reports issued by the independent external auditors to be submitted to the Under Secretary of Defense (Comptroller), Controller of the Office of Management and Budget's (OMB) Office of Federal Financial Management, and appropriate congressional committees; and
  - authorized the Secretary of Defense to carry out a pilot program allowing financial management personnel to temporarily exchange between DOD and contractors.
- Congressional oversight committees have continued to press for increased progress at DOD through hearings.

What Remains to Be Done

Leadership

DOD needs to assure the sustained involvement of leadership at all levels of the department in addressing financial management reform and business transformation. DOD leadership has stated that it is committed to achieving effective financial management controls to support financial accountability and reliable and timely information for day-to-day management decision making, and auditable financial statements. However, DOD reported in its November 2016 FIAR Plan Status Report that because some remediation actions and major system and process changes will not be fully completed, it expects the fiscal year 2018 full financial statements audit to result in significant audit findings and a disclaimer of opinion. In addition, DOD reported that it anticipates receiving disclaimers of opinion on its financial statements for several years. DOD leadership needs to reasonably assure that DOD components adhere to the processes in the FIAR Plan and the accompanying FIAR Guidance so that components have effective leadership, processes, systems, and controls in place to sustainably improve DOD's financial management operations and audit readiness. Sustained leadership commitment is critical to DOD's success in achieving financial accountability and in providing reliable information for day-to-day management decision making as well as financial audit readiness.

Capacity

DOD needs to continue building a workforce with the level of training and experience needed to support and sustain sound financial management. DOD needs to address the availability of financial management staff in light of the mandatory workforce reductions at headquarters.[3] In addition, to continue building a skilled and knowledgeable workforce, DOD needs to assure that its financial management certification program continues

[3]The NDAA for Fiscal Year 2016 requires that the Secretary of Defense implement a plan to ensure that DOD achieves a minimum of $10 billion in cost savings from the headquarters, administrative, and support activities of the department, including through streamlining the department's headquarters workforce, during the period beginning with fiscal year 2015 and ending with fiscal year 2019 with at least half the reductions occurring for fiscal years before fiscal year 2018. Pub. L. No. 114-92, § 346, 129 Stat. 796 (Nov. 25, 2015), codified at 10 U.S.C. § 111, note.

developing and refreshing required competencies, periodically assessing the workforce's capabilities, identifying competency gaps, and closing those gaps.

DOD needs to continue to develop and deploy enterprise resource planning (ERP) systems as a critical component of DOD's financial improvement and audit readiness strategy. DOD also will need to strengthen automated controls or design manual workarounds for the remaining legacy systems to satisfy audit requirements and improve data used for day-to-day decision making. The DOD OIG has reported that DOD continues to have schedule delays in effectively implementing its ERPs. These delays in implementing ERP systems increase the risk that DOD will not have reliable information for making important decisions on mission and operations or meet its goal of being validated as ready for an audit of its full financial statements by September 30, 2017.

DOD needs to address identified deficiencies in service providers' systems, processes, and controls that affect the reliability of financial data and information used in the related business processes. In addition, each of the components needs to resolve integration issues with DOD service providers. Further, the military services need to work with Defense Finance and Accounting Service (DFAS) management to address suspense accounts and support for adjustments made by journal vouchers.

Action Plan

DOD needs to assure that military services enhance their policies and procedures for developing CAPs and improve processes for identifying, tracking, and remediating financial management related audit findings and recommendations. Improving remediation processes over these deficiencies will be more important in light of the hundreds of findings and recommendations resulting from the fiscal year 2015 and 2016 Budgetary Schedule audits.

DOD needs to effectively implement its FIAR Plan and FIAR Guidance to focus on strengthening processes, controls, and systems to improve the accuracy, reliability, and reporting for the Budgetary Schedule and the SBR and assess the existence, completeness, and valuation of mission-critical assets. It also needs to fully define, in the FIAR Guidance, actions needed to resolve long-standing department and component financial management weaknesses. In taking such actions, DOD should not lose

sight of the ultimate goal of implementing lasting and sustainable financial management reform which provides reliable, useful, and timely information for decision making as a routine part of financial management operations. Auditable financial statements would be a natural byproduct of the department's success.

Monitoring

To effectively monitor its components as they implement the FIAR Guidance and assess and test controls and remediate control deficiencies, DOD needs to establish a process for assuring that financial improvement plans have been effectively implemented.[4] DOD management will need to monitor and assess the progress that the department is making. Additionally, the FIAR Directorate should validate that the military services and other components have achieved the seven critical capabilities. According to the April 2016 FIAR Guidance, these seven critical capabilities are related to DOD's ability to: (1) produce a universe of transactions; (2) reconcile its Fund Balance with Treasury (FBWT) (i.e., balance its checkbook); (3) provide supporting documentation for material adjustments to its financial records; (4) validate the existence, completeness, and rights of its assets; (5) establish processes to manage and value its assets correctly; (6) establish an auditable process for estimating and recording its environmental and disposal liabilities; and (7) implement critical information technology controls for its financial systems.

DOD should take the following actions:

- assure that the Navy fully implements the FIAR Guidance for FBWT in the areas of analyzing processes, prioritizing, assessing and testing internal controls, and evaluating supporting documentation to support audit readiness;
- require the military services to improve their policies and procedures for monitoring their CAPs for financial management related findings and recommendations;
- improve its process for monitoring the military services' audit remediation efforts by preparing a consolidated CAP management summary that provides a comprehensive picture of the status of corrective actions throughout the department; and

[4]A financial improvement plan is a standard framework that organizes and prioritizes the financial improvement efforts of the reporting entities and aligns to the FIAR Methodology.

- expand the FIAR Plan Status Report so that Congress and other decision makers will have more sufficient information to assess DOD's current audit readiness status and the improvements that still need to be made.

In addition, with regard to our open priority recommendations, DOD should monitor actions components are taking to

- direct DFAS to complete actions in response to our recommendations for implementing the requirements in the FIAR Guidance in the areas of planning, testing, and corrective actions;
- improve DOD processes to identify, estimate, reduce, recover, and report on improper payments to assure these processes fully comply with OMB guidance, the Improper Payments Information Act of 2002, as amended, and the Improper Payments Elimination and Recovery Act of 2010, and
- reconsider the status of three recommendations made by the House Armed Services Committee Panel on Defense Financial Management and Auditability Reform that the department determined to be met but that we determined to be partially met; these recommendations related to:
  - attesting to audit readiness in each of the FIAR Plan Status Reports;
  - including FIAR-related goals in Senior Executive Service performance plans and rewarding and evaluating performance over time based on these goals; and
  - reviewing audit readiness assertions before component senior executive committees.

Demonstrated Progress

Improving the department's financial management operations—and thereby providing DOD management and the Congress with more accurate and more reliable information on the results of its business operations—will not be an easy task. Key challenges remain, such as allocating the department's workforce and budget among competing priorities, achieving the critical capabilities detailed in the FIAR Guidance, and executing CAPs to effectively remediate findings and recommendations from IPAs, the DOD OIG, and us.

According to its November 2016 FIAR Plan Status Report, DOD is continuing to work toward undergoing a full financial statement audit for fiscal year 2018; however, it expects to receive disclaimers of opinion on its financial statements for a number of years. This is why it is important for DOD and the military services to improve their processes for identifying, tracking, remediating, and monitoring audit findings and recommendations related to financial management. The military services will need to assure that they enhance their policies and procedures for remediating these findings and recommendations and DOD will need to obtain comprehensive information on the status of CAPs throughout the department in order to fully monitor and report on the progress being made to resolve financial management deficiencies. A lack of comprehensive information on the CAPs limits the ability of DOD and Congress to evaluate DOD's progress toward achieving audit readiness, especially given the short amount of time remaining before DOD is required to undergo an audit of the department-wide financial statements for fiscal year 2018. Being able to show the progress that the department is making in remediating its financial management deficiencies will be useful as the department works toward implementing lasting financial management reform to ensure that it can generate reliable, useful, and timely information for financial reporting as well as for decision making and effective operations.

Additional Details on What GAO Found

Leadership Commitment

DOD continues to partially meet the leadership commitment criterion. Since the last high-risk update in 2015, the commitment of DOD's senior leadership to improving the department's financial management has continued to be encouraging. The statements, testimony, and actions of senior leaders have emphasized the importance of effective financial management and audit readiness to DOD's stewardship over the substantial funding and other resources entrusted to the department.

In response to statutory requirements and targets, DOD leadership directives have set out a strategy and methodology for improving DOD's financial management through the FIAR Plan Status Reports and FIAR Guidance. DOD's current FIAR strategy and methodology focuses on four priorities—budgetary information, proprietary accounting and information, mission critical asset information, and valuation—with overall goals of improving the department's financial management operations, helping

provide service members with the resources they need to carry out their mission, and improving stewardship of the resources entrusted to DOD by the taxpayers. DOD Comptroller officials meet regularly with us for a constructive exchange of information on the status of DOD and component actions and to help sustain progress toward the FIAR goals.

The April 2016 FIAR Guidance incorporates recent policy updates related to integrating service providers and financial reporting on existence, completeness, and valuation of property. It also defines seven critical capabilities that reporting entities must address prior to asserting full audit readiness. According to DOD, the approach to achieving full financial statement auditability by September 30, 2017, relies upon each DOD component and service provider addressing the seven critical capabilities in a timely manner; failing to do so will put the entire department's strategy at risk.

Capacity

DOD continues to partially meet the capacity criterion. DOD faces capacity challenges because (1) its financial management personnel are insufficient in number, qualifications, and expertise; (2) its legacy financial systems data and ERPs lack the necessary standardization and reliability to support generating financial statements and related data; and (3) its service providers' audit readiness activities are not fully integrated with respective DOD components' audit readiness activities. DOD continues to identify the need for sufficient numbers of qualified and experienced personnel as a challenge to achieving its goals of financial improvement and audit readiness. In the November 2016 FIAR Plan Status Report, DOD reported that audit readiness resources are expected to decline across the department as audit readiness activities continue to rise. For example, DOD reported that new financial statement audits will increase the work demands on headquarters staff. However, since the department has been mandated to reduce its headquarters workforce by fiscal year 2020, this additional work could exacerbate the demands on the workforce. In addition, the Defense Health Program reported that resources needed to concurrently support audit readiness and financial management operations exceed the capacity of its available resources. Similarly, the Army identified resource constraints and the timing of its fiscal year 2016 Schedule of Budgetary Activity audit as challenges to its ability to remediate audit findings related to its ERP systems. Further, DOD reported in its November 2016 FIAR Plan Status Report that

resource needs for financial statement audits will likely increase as the scope of the audits expand and work to correct audit findings increases.

DOD has undertaken efforts to increase the knowledge and skills of its financial management workforce by implementing its financial manager certification program. However, it will take some time before DOD's financial management staff achieves the level of training and experience needed to support and sustain financial management as envisioned by the FIAR Plan. Further, DOD's decentralized management environment may have an effect on the ability of its financial management personnel to gain the requisite expertise to develop and implement needed CAPs. Moreover, while DOD has made progress in financial manager training, it lacks the level of expertise needed to lead financial management reform across the department.

DOD faces challenges with its systems' capacity to generate reliable, auditable financial information because it continues to rely on (1) legacy systems and related processes and controls that feed financial information to component general ledger systems and (2) general ledger systems, including ERP systems, that do not meet federal accounting standards, U.S. Standard General Ledger (USSGL)[5] requirements, federal financial management system requirements, and DOD's Standard Financial Information Structure.[6] DOD continues to report that relying on legacy systems is a challenge. This is because legacy systems produce data that are not standardized and are therefore difficult to reconcile to the financial statements. Many legacy systems will still be in use when the audit of DOD's fiscal year 2018 full financial statements must commence. In its May 2016 FIAR Plan Status Report, DOD discussed continuing challenges regarding the large number of business and financial systems and the level of effort and cost of developing and maintaining an audit-ready systems environment.

DOD continues to implement and upgrade various ERP systems to establish an audit-ready systems environment. However, because these systems were not always designed to capture transaction-level information that can be tied to original supporting documents, significant

[5]The USSGL provides a uniform Chart of Accounts and technical guidance to be used in standardizing federal agency accounting practices. The Department of the Treasury issues USSGL Implementation Guidance.

[6]The Standard Financial Information Structure is DOD's comprehensive data structure that supports department-wide data requirements for budgeting, financial accounting, cost and performance management, and external reporting purposes.

time will be needed to make necessary modifications to assure that they generate reliable financial information. DOD components have varying plans for correcting system deficiencies; for some components, completion dates have either not been determined or extend into fiscal year 2019.

DOD uses service providers to improve efficiency and standardize business operations in various functional areas, including accounting, personnel and payroll, logistics, contracting, and system operations and hosting support. DOD service providers and their business systems are fundamental to reliable accounting and reporting and financial audit readiness. For example, to process and record payments to contractors, DOD components depend on over a dozen systems owned and operated by service providers and on nonstandard business processes that need to link between the components and service providers. This complex level of interdependency increases the difficulty of identifying the systems that need to be modified, upgraded, or eliminated to support financial management improvement and audit readiness and the difficulty of defining critical roles and responsibilities for carrying out such actions.

The FIAR Guidance calls for examinations of DOD service providers' systems, processes, and controls. The IPAs that conduct these examinations have continued to identify deficiencies in service providers' systems, processes, and controls that affect the reliability of financial data and information used in the related business processes. Each of the components has identified integration with DOD service providers as a challenge to completing financial improvement initiatives and audit readiness efforts. For example, the Army has expressed concerns about service providers' abilities to provide timely responses to auditor samples, data requests, and sufficient supporting documentation. In addition, the Marine Corps has expressed concerns about the ability of service providers to provide supporting documentation for existence, completeness, rights, and valuation of Marine Corps assets. Further, the military services have expressed concerns about how DFAS manages suspense accounts and provides supporting documentation for adjustments made by journal vouchers.[7]

[7]Suspense accounts are accounts in the general ledger in which amounts are temporarily recorded. The suspense account is used because the proper account could not be determined at the time the transaction was recorded. When the proper account is determined, the amount will be moved from the suspense account to the proper account.

Action Plan

DOD continues to partially meet the action plan criterion. While the military services have developed, implemented, and validated many corrective actions, DOD's limited progress in making needed financial management reform can be attributed to its decentralized management environment and cultural resistance to change, which have significantly impeded the department's ability to modernize and transform business processes, systems, and controls. Sound financial management practices and reliable, useful, and timely financial information are important to help ensure accountability over DOD's extensive resources and to efficiently and economically manage the department's assets and budgets. Under DOD's nonstandard, decentralized environment, each component is responsible for following steps in OMB's guidance and DOD's FIAR Guidance for addressing financial management related findings and recommendations reported by external auditors, including steps to (1) identify and track them, (2) prioritize them, (3) develop CAPs to remediate them, and (4) monitor the implementation status of the CAPs.

However, we found that the remediation processes designed by each military service had deficiencies in one or more of these areas. For example, each military service's policies and procedures lacked sufficient controls to reasonably assure that they identified and tracked the complete universe of open findings and recommendations related to financial management. Without identifying and tracking the complete universe of unresolved deficiencies, the military services cannot reasonably assure that the deficiencies will be addressed in a timely manner, which can ultimately affect the reliability of financial information and the auditability of their financial statements.

The need to effectively implement financial management remediation processes has become more important in light of (1) the hundreds of findings and recommendations that resulted from the fiscal year 2015 and 2016 Budgetary Schedule audits, (2) future audits that will have a broader scope of work and may therefore identify additional findings and recommendations, and (3) the short period remaining before DOD is required to undergo a full financial statement audit for fiscal year 2018.

DOD components have self-identified completion dates for achieving the seven critical audit readiness capabilities for both their general funds and

working capital funds in coordination with their service providers.[8] As reported in DOD's November 2016 FIAR Plan Status Report, most of DOD's audit readiness tasks and associated audit readiness milestones have planned completion dates in fiscal year 2017. DOD faces significant challenges, given its limited progress in assuring it can attain the seven critical capabilities and the volume and magnitude of open audit findings and recommendations that still need to be addressed from the fiscal year 2015 and 2016 Budgetary Schedule audits of the Army, Navy, and Air Force.

To date, the efforts of DOD components to implement the FIAR Guidance have not fundamentally transformed systems and operations as necessary to produce reliable, useful, and timely information for day-to-day decision making on mission and operations. Resolving these deficiencies also will be crucial to DOD's efforts to meet the statutory requirement to undergo a full financial statement audit for fiscal year 2018. However, much work remains to be completed in order for this date to be met. In its November 2016 FIAR Plan Status Report, DOD stated that readiness to undergo an audit does not mean that it expects to receive a positive opinion and that it is important to continue the audit regimen in order to gain valuable information from its early audit efforts, information that will help focus the department's corrective actions in the most critical areas.

Monitoring

DOD has not met the monitoring criterion. Effective monitoring requires instituting a program to monitor and independently validate the effectiveness and sustainability of corrective measures. However, as we have reported, while the DOD Comptroller has established several elements of a department-wide audit readiness remediation process, the DOD Comptroller does not obtain the complete, detailed information on all corrective action plans (CAP) from the military services related to the department's critical capabilities necessary to fully monitor and assess DOD's progress. Specifically, DOD does not prepare a consolidated

[8]General funds are accounts in the U.S. Treasury holding monies not allocated by law to any other program account in contrast to other types of accounts such as revolving funds or trust funds where the funds are earmarked for a specific purpose. The working capital fund operates as a self-sustaining entity, financing inventories of common supplies and providing working capital for industrial and commercial activities that provide common services within or among DOD entities. The working capital fund is intended to (1) generate sufficient resources to cover the full costs of support organizations and (2) operate on a break-even basis over time.

management summary that would provide a comprehensive, department-wide picture of the status of CAPs needed for audit readiness that includes all of the elements that are recommended by the Implementation Guide for OMB Circular A-123.[9] As a result, reports to external stakeholders, such as Congress, on the status of audit readiness do not provide comprehensive information on progress against the CAPs, limiting the ability of DOD and Congress to evaluate DOD's progress toward achieving audit readiness, especially given the short amount of time remaining before the statutorily required full financial statement audit for fiscal year 2018. Further, the lack of comprehensive information on the status of CAPs increases DOD's risk that it will not be able to fully, timely, and efficiently correct its long-standing deficiencies.

In addition, we reported that DOD's FIAR Plan Status Reports do not provide adequate visibility for Congress and other decision makers regarding the extent to which DOD has addressed certain internal control deficiencies that it refers to as deal-breakers.[10] For example, the status reports do not include information on (1) audit assertions made without correcting internal control deficiencies along with actions and plans to remediate the deficiencies and (2) details of military services' actions taken and progress made toward correcting the underlying deficiencies for reported deal-breakers. Without greater visibility of the status of DOD's audit readiness or progress toward reported completion dates in its FIAR Plan Status Report, Congress and other decision makers may not have sufficient information to assess DOD's current audit readiness status and the improvements that still need to be made.

DOD has not effectively implemented the FIAR Guidance because, in part, it lacks effective monitoring to assess the effectiveness of controls and the remediation of control deficiencies. For example, we reported that the Navy did not fully implement the FIAR Guidance for reconciling its FBWT in the areas of process analysis, prioritization, internal control assessment and testing, and evaluation of supporting documentation to

[9]The Implementation Guide for OMB Circular A-123 recommends that a CAP include a (1) summary description of the deficiency; (2) the year the deficiency was first identified; (3) the target corrective action date (the date of management follow-up); (4) the agency official responsible for monitoring progress; (5) outcome measures for assessing the effectiveness of corrective actions; and (6) interim milestones for monitoring progress on interim actions.

[10]Drawing on lessons learned from past audit readiness efforts, DOD compiled a list of deal-breakers that have prevented it from demonstrating audit readiness or receiving unmodified or "clean" opinions in audits. The seven critical capabilities noted previously in this report are a subset of these deal-breakers.

support audit readiness. In addition, each of the IPAs that performed audits of the military services fiscal year 2016 Budgetary Schedules identified deficiencies in monitoring information technology controls for its financial systems.

DOD also has challenges with carrying out its strategy in the FIAR Guidance with regard to its critical capabilities. For example, the DOD OIG reported that the Army could not reconcile approximately $207 billion (68 percent) of its outlays, because the Army and DFAS did not coordinate to reengineer business processes when they implemented a new FBWT reconciliation tool. As a result, the DOD OIG reported that the Army cannot demonstrate an effective FBWT transaction-level reconciliation, which DOD identified as one of the deal-breakers to auditability. Furthermore, the DOD OIG reported that Army and DFAS could not adequately support material amounts of year-end adjustments to the Army General Fund financial data during the fiscal year 2015 financial statement compilation. As a result, the data used to prepare the fiscal year 2015 Army General Fund statements were unreliable and lacked an adequate audit trail. The DOD OIG also reported that DOD and Army managers could not rely on the data in the accounting systems when making management and resource decisions. According to the DOD OIG, until these control deficiencies are corrected, there is a considerable risk that the Army General Fund financial statements will be materially misstated and that the Army will not achieve the goal of being audit ready by September 30, 2017.

Demonstrated Progress

DOD has not met the demonstrated progress criterion, showing limited progress in implementing corrective measures to resolve its long-standing financial management challenges. For example, because of difficulties encountered in preparing for an audit of the multi-year Statement of Budgetary Resources (SBR), DOD decided that, beginning with fiscal year 2015, it would limit the scope of the initial audits for all DOD components to current-year budget activity reported on a Budgetary Schedule.[11] This was intended to be an interim step toward achieving the audit of multiple-year budgetary activity required for an audit of the SBR, with subsequent audits including current-year appropriations as well as prior-year appropriations going back to fiscal year 2015. Consequently,

[11]In addition to the military services, DOD components include entities such as the defense agencies.

the Budgetary Schedules for the Army, Navy, and Air Force for fiscal year 2015 reflected only current year budget activity. As noted above, all three of the IPAs contracted to audit these fiscal year 2015 Budgetary Schedules issued disclaimers, meaning that the IPAs were unable to express an opinion because they lacked sufficient evidence to support the amounts presented.

The IPAs for the three military services also identified material weaknesses in internal control. These weaknesses included military services' inability to, among other things, reasonably assure that the Budgetary Schedules reflected all of the relevant financial transactions that occurred and that documentation was available to support such transactions. The IPAs for the three military services also issued disclaimers on the three services' fiscal year 2016 Budgetary Schedules for reasons similar to those identified in the fiscal year 2015 audits. Further, the results of these audits—with hundreds of open findings and recommendations—show the extent and complexity of improvements needed to provide reliable information for financial reporting as well as for sound decision making on mission and operations.

GAO Contact

For additional information about this high-risk area, contact Asif Khan at (202) 512-9869 or khana@gao.gov.

Related GAO Products

DOD Financial Management: Significant Efforts Still Needed for Remediating Audit Readiness Deficiencies. GAO-17-85. Washington, D.C.: February 9, 2017.

DOD Financial Management: Improvements Needed in the Navy's Audit Readiness Efforts for Fund Balance with Treasury. GAO-16-47. Washington, D.C.: August 19, 2016.

DOD Financial Management: Greater Visibility Needed to Better Assess Audit Readiness for Property, Plant, and Equipment. GAO-16-383. Washington, D.C.: May 26, 2016.

DOD Financial Management: Improved Documentation Needed to Support the Air Force's Military Payroll and Meet Audit Readiness Goals. GAO-16-68. Washington, D.C.: December 17, 2015.

DOD Financial Management: Additional Efforts Needed to Improve Audit Readiness of Navy Military Pay and Other Related Activities. GAO-15-658. Washington, D.C.: September 15, 2015.

DOD Financial Management: Continued Actions Needed to Address Congressional Committee Panel Recommendations. GAO-15-463. Washington, D.C.: September 28, 2015.

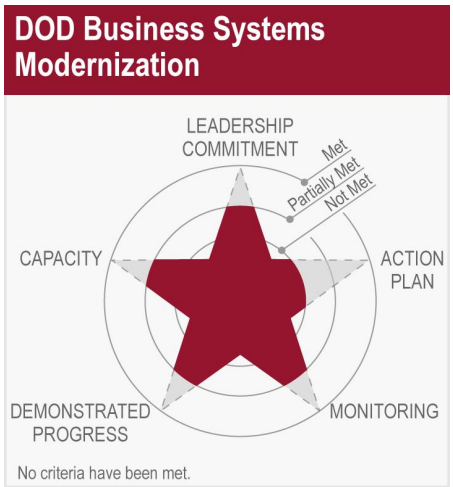
DOD Financial Management: Actions Are Needed on Audit Issues Related to the Marine Corps' 2012 Schedule of Budgetary Activity. GAO-15-198. Washington, D.C.: July 30, 2015.

DOD Business Systems Modernization

Why Area Is High Risk

The Department of Defense (DOD) spends billions of dollars each year to acquire modernized systems that are fundamental to achieving its business transformation goals, including systems that address key areas such as personnel, financial management, health care, and logistics. While DOD's capacity for modernizing its business systems has improved over time, significant challenges remain. These challenges include fully defining and establishing management controls for business systems modernization. Such controls are vital to ensuring that DOD can effectively and efficiently manage an undertaking with the size, complexity, and significance of its business systems modernization, and minimize the associated risks. DOD's effort to modernize its business systems environment has been designated as high risk since 1995.

What GAO Found



Source: GAO analysis. | 2017 High Risk List GAO-17-317

DOD has demonstrated elements of leadership commitment and has made progress in this area by taking steps to manage the modernization

of its business systems more effectively and efficiently. For example, the department has begun to implement an improved investment management framework and processes, and has established the capacity to use its federated architecture to identify potentially duplicative investments. However, more needs to be done to leverage DOD's capacity to identify potentially duplicative investments, and to ensure that, among other things, systems are reviewed at appropriate levels as part of the department's improved investment management framework.

In addition, DOD's business systems modernization efforts continue to fall short of cost, schedule, and performance expectations, and the department has not yet established an action plan (or plans) highlighting how it intends to improve its use of its business architecture, improve its business system investment management process, or improve its business system acquisition outcomes. The department can leverage the federal information technology (IT) dashboard as a mechanism for beginning to monitor progress in improving its business system acquisition outcomes. Nevertheless, without an action plan, DOD lacks a baseline against which it can monitor broader progress in its business systems modernization efforts.

Further, the National Defense Authorization Act for Fiscal Year 2017 and its accompanying conference report include provisions that might impact how the department will manage its business systems. Specifically, the act establishes a Chief Management Officer and the accompanying conference report calls for the department to develop a plan by June 2017 to implement a more optimized organizational structure and processes to support information management and cyber operations, including the policy, direction, oversight, and acquisition functions associated with, among other things, business systems. The impact of these provisions on the department's business systems modernization efforts remains to be seen.

Although more needs to be done to address this high-risk issue, DOD has achieved important benefits by implementing our recommendations. For example, fiscal years 2013 and 2014 saw total financial savings of $970 million due to the department cancelling the Air Force's Expeditionary Combat Support System because of significant cost and schedule overages discovered as a result of increased oversight.

What Remains to Be Done

DOD must more fully demonstrate leadership commitment and progress in implementing critical IT modernization management controls. For example, the department needs to address the provisions of the conference report accompanying the Fiscal Year 2017 National Defense Authorization Act that call for DOD to develop a plan by June 2017 to implement a more optimized organizational structure and processes to support, among other things, business systems. DOD also needs to ensure that its business system investments are managed with the kind of rigor and discipline embodied in relevant acquisition management guidance and best practices so that each investment will deliver expected benefits and capabilities on time and within budget. In addition, DOD should ensure that its information reported on the Office of Management and Budget's IT Dashboard is reliable and, over time, demonstrates improved achievement of cost, schedule, and performance expectations.[1] DOD should also demonstrate that it is improving its guidance on incrementally developing IT systems to help ensure a timely delivery of needed capabilities, consistent with the Federal IT Acquisition Reform provisions of the Carl Levin and Howard P. 'Buck' McKeon National Defense Authorization Act for 2015.[2]

In addition, DOD needs to take steps to address key portfolio management practices documented in our IT Investment Management Framework. For example, DOD has not yet defined criteria for reviewing defense business systems at an appropriate DOD level based on factors such as complexity, scope, cost, and risk in support of the certification and approval process. DOD also needs to develop plans defining how it will ensure that it is using its federated business architecture to identify and address potentially duplicative investments within its business systems environment.

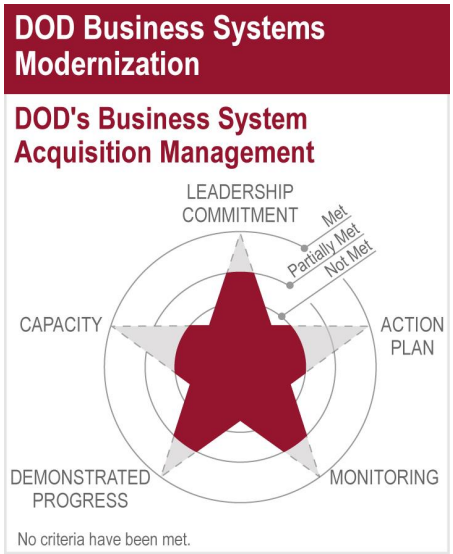
[1]The dashboard aims to provide transparency for these investments to aid public monitoring of government operations. It is to do so by reporting, among other things, how agency chief information officers rate investment risk.

[2]The Federal IT Acquisition Reform provisions of the Carl Levin and Howard P. 'Buck' McKeon National Defense Authorization Act for Fiscal Year 2015 require that OMB capital planning guidance require that the chief information officer of each covered agency, including DOD, certify that IT investments are adequately implementing incremental development, as defined in the guidance.

Further, DOD should demonstrate that plans exist for addressing these various actions and associated recommendations, and that it is monitoring progress against these plans and demonstrating progress and related outcomes. DOD also needs to ensure that it has the appropriate capacity in place by conducting needed human capital analyses.

Additional Details on What GAO Found

DOD's Business System Acquisition Management



Source: GAO analysis. | 2017 High Risk List GAO-17-317

Leadership Commitment

DOD has partially met the criterion for leadership commitment. For example, the department has taken steps to improve its publicly available investment ratings and encourage incremental development. However, more remains to be accomplished before the department can fully demonstrate leadership commitment. In particular, the department needs to take steps to improve the accuracy of the department's ratings, improve its use of incremental development, and further define expectations for managing its business system investments.

In March 2014, the department revised its chief information officer ratings process for investments presented on the Federal IT Dashboard to take into account additional information about the risk of its investments, such

as investment complexity, execution issues, and external risk assessments, including our reports. Establishing an accurate picture of program risk helps department management better understand which investments would benefit from additional oversight. Nevertheless, we reported in June 2016 that investment risk ratings presented on the Dashboard were not consistent with our assessment of investment risks.[3] Specifically, our assessment of 25 DOD programs, 4 of which were defense business systems, determined that 19 of the programs, including all 4 defense business systems, were at a higher risk level than what was presented on the Dashboard.

Moreover, in January 2015, the department revised Department of Defense Instruction 5000.02: Operation of the Defense Acquisition System, which describes an incremental software development approach for IT investments. According to the instruction, the approach has been adopted for many defense business systems. This is partially consistent with the recommendation from our May 2014 report emphasizing the importance of IT investments delivering capabilities in smaller increments over shorter periods of time.[4] However, the instruction does not provide a time frame for how often functionality is to be delivered. As a result, the instruction does not fully address our recommendation, which calls for DOD to update its incremental development policies to ensure that it complies with Office of Management and Budget guidance. This guidance requires federal agencies to deliver usable system functionality every 6 months.

In addition, the results from our recent related work show that the department has not consistently implemented an incremental development approach for all of its major IT investments. Specifically, in August 2016,[5] we reviewed 14 business system projects associated with seven business system investments and found that, in fiscal year 2016, only 8 projects planned to deliver functionality every 6 months.[6] Moreover, only nine projects planned to deliver functionality every 12 months. Six of

[3]GAO-16-494.

[4]GAO-14-361.

[5]GAO-16-469.

[6]The 14 business system projects were part of seven larger business systems investments. For example, the Defense Enterprise Accounting and Management System Increment 1 investment contained one project that was reviewed, while the Integrated Electronic Health Record Increment 1 investment contained two projects that were reviewed.

the projects that had planned to deliver functionality within 6 months were associated with only one of the seven investments. According to DOD officials, the department allows its program managers to determine the appropriate delivery schedule. The officials also noted that a 6-month schedule would be too expensive to implement given the scale of the projects at the department. Nevertheless, until DOD modifies and implements its incremental development policy, it continues to run the risk of failing to deliver major investments in a cost-effective and efficient manner.

In November 2016, DOD officials from the Offices of the Deputy Chief Management Officer, Under Secretary for Acquisition, Technology, and Logistics, and DOD Chief Information Officer stated that the department had developed a draft DOD Instruction focused on improving business system acquisition. This instruction is to provide guidance in areas such as risk management, requirements management, and incremental development. However, as of December 2016, the department had not completed the instruction. In addition, as previously discussed, the impact of provisions included in the National Defense Authorization Act for Fiscal Year 2017, and its accompanying conference report, on DOD business system acquisition management remains to be seen.

Capacity

DOD has not met the criterion for capacity. In May 2013, we reported that the Office of the Deputy Chief Management Officer, which is responsible for annually reviewing and approving the expenditure of funds associated with DOD business systems, had not conducted a human capital analysis and that no plans existed to analyze and address skill gaps, thus limiting the department's capacity to lead improvement initiatives in these areas. In August 2016, department officials reported that the office had undergone two reorganizational changes and used skill inventories, needs assessments, and gap analyses as part of a strategic approach to human capital planning. However, DOD has not provided evidence of having performed a needs assessment or a gap analysis. In November 2016, an official from the department's Office of the Under Secretary of Defense for Acquisition, Technology and Logistics stated that the department planned to take additional steps to address human capital needs after issuing its forthcoming instruction on defense business systems.

Action Plan

DOD has not met the criterion for developing an action plan. In particular, the department lacks a plan (or plans) to monitor efforts to manage its business system investments with the rigor and discipline embodied in relevant acquisition guidance and best practices. In October 2016, the Assistant Deputy Chief Management Officer described steps the department is taking to make improvements in this area, but stated that the department has not developed an action plan to address this high-risk area.

Monitoring

DOD has partially met the criterion for monitoring progress. Specifically, the department can leverage the Federal IT Dashboard with more accurate data as a mechanism for beginning to monitor progress in improving its business system acquisition outcomes. However, without an approved action plan for addressing the DOD Business Systems Modernization high-risk area, the department lacks a means to monitor broader progress in making improvements to its business system acquisition management efforts.

Demonstrated Progress

DOD has partially met the criterion for demonstrating progress. As discussed previously, the department has taken steps to improve business system acquisition management. However, it needs to show continued progress as it takes steps to improve its efforts. For example, in our series of reports on DOD major automated information systems,[7] we reported that the department has had mixed success in addressing key acquisition practices, such as risk and requirements management. We also continue to identify examples of business systems that do not meet performance expectations and experience significant cost overruns and schedule slippages.

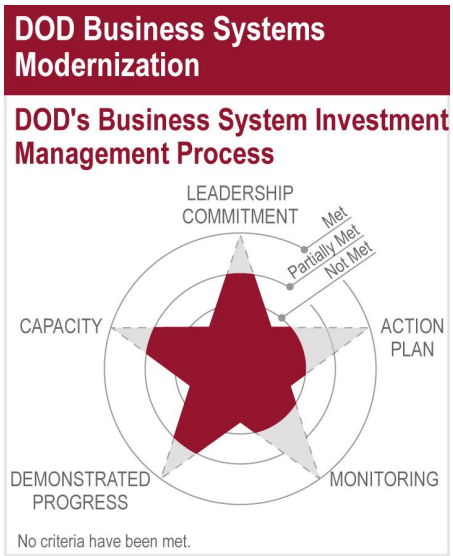
For example, in March 2016,[8] we reported that the projected cost of the Air Force system that provides financial capabilities, such as cost accounting and collections, had increased about 9 percent from the program's first February 2012 estimate (from approximately $1.43 billion

[7]GAO-16-336, GAO-15-282, GAO-14-309, GAO-13-311.

[8]GAO-16-336.

up to $1.56 billion). Program officials attributed the cost increase, in part, to program scope growth and the addition of software upgrade enhancements. We also reported that this system experienced a 1-year slippage in its full deployment decision date. Program officials attributed this slippage to findings identified in the system's initial operational test and evaluation report. In addition, the system did not meet five of its nine key performance indicators. In November 2016, DOD officials stated that the system was not deployed as planned and is currently undergoing a critical change. Accordingly, as of November 2016, updated milestones have not yet been established.

DOD's Business System Investment Management Process



Source: GAO analysis. | 2017 High Risk List GAO-17-317

Leadership Commitment

DOD has partially met the criterion for leadership commitment. Specifically, the department has taken steps to improve its business systems investment management process to include defining and implementing policies and procedures for managing portfolio-level investments consistent with our Information Technology Investment Management Framework, and relevant investment management and business system modernization requirements. For example, in July 2015, we reported that DOD was continuing its efforts to further define and

implement its defense business system governance framework, called the Integrated Business Framework.[9]

In this regard, the department had taken steps to align its business system certification and approval process with its planning, programming, budgeting, and execution process. According to the department's February 2015 certification and approval guidance, organizational execution plans, which are to summarize each component's business strategy for each functional area (e.g., financial management), are to include information about certification requests for the upcoming fiscal year as well as over the course of the department's Future Years Defense Program.[10]

In addition, DOD has generally concurred with our recommendations to address improvements to its management of business systems. Nevertheless, the department needs to show continued leadership commitment and progress in addressing our associated recommendations as it takes steps to improve its business system investment management process. These recommendations are aimed at ensuring that business systems receive the appropriate levels of review using a tiered investment review board approach, and that strategies for DOD functional areas include all of the critical elements identified in DOD investment management guidance.[11] These critical elements include performance measures to determine progress toward achieving the goals that incorporate all of the attributes called for in the department's guidance. Further, as previously discussed, the impact of provisions in the National Defense Authorization Act for Fiscal Year 2017, and its associated conference report, on the department's business systems investment management process remains to be seen.

Capacity

DOD has partially met the criterion for capacity. Although the department has established an investment review board to oversee its portfolio-based

[9]GAO-15-627.

[10]The Future Years Defense Program is DOD's financial plan over a 5-year period.

[11]Functional Strategies define business outcomes, priorities, measures, and standards for a given functional area within DOD. The functional areas are acquisition; defense security enterprise; enterprise IT infrastructure; financial management; human resources management and health management; installations and environment; logistics and materiel readiness; and security cooperation.

investment management process, much still remains to be accomplished to better define and institutionalize this process. For example, as of December 2016, the department had not yet issued an update to its February 2015 Certification Guidance. Officials from the Offices of the Deputy Chief Management Officer, Under Secretary for Acquisition, Technology and Logistics, and DOD Chief Information Officer stated in November 2016 that the department was developing a DOD Instruction aimed at improving the management of defense business systems. According to the officials, updated guidance on defense business systems, including updated certification guidance, will be issued after the instruction is finalized.

In addition, in May 2013, we reported that the Office of the Deputy Chief Management Officer, which is responsible for annually reviewing and approving the expenditure of funds associated with DOD business systems, had not conducted a human capital analysis and had not developed plans to analyze and address skill gaps, thus limiting the department's capacity to lead improvement initiatives in these areas. In August 2016, department officials reported that the office had undergone two reorganizational changes and used skill inventories, needs assessments, and gap analyses as part of a strategic approach to human capital planning. However, DOD has not provided evidence of having performed a needs assessment or a gap analysis. Nevertheless, in November 2016, an official from the department's Office of the Under Secretary for Acquisition, Technology and Logistics stated that the department planned to take additional steps to address human capital needs after issuing its forthcoming instruction on defense business systems.

Action Plan

DOD has not met the criterion for developing an action plan. Specifically, the department has not established an action plan (or plans) for addressing gaps in its business system investment management approach. In October 2016, the Assistant Deputy Chief Management Officer described steps the department is taking to make improvements in this area, but stated that the department has not developed an action plan to address this high-risk area.

Monitoring

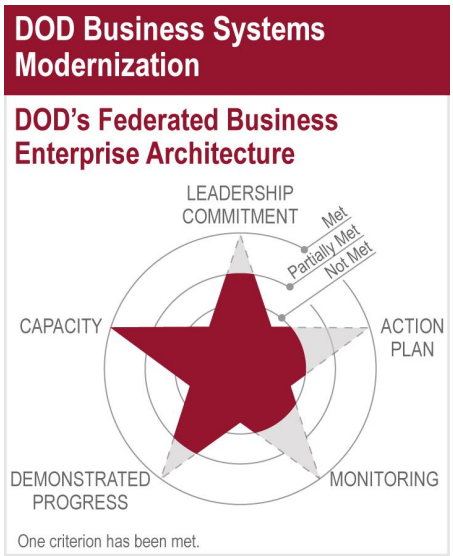
DOD has not met the criterion for monitoring progress. Specifically, without an approved action plan for addressing the DOD Business

Systems Modernization high-risk area, the department lacks a means to monitor progress in making improvements to its business system investment management process.

Demonstrated Progress

DOD has partially met the criterion for demonstrated progress. As discussed previously, the department has taken steps to improve its business system investment management process. However, the department needs to show continued progress in addressing our associated recommendations as it takes steps to improve its business system investment management process. For example, as discussed, in February 2015, the department took steps to align its business system certification and approval process with its planning, programming, budgeting, and execution process. However, as we reported in July 2015, the department's February 2015 certification and approval guidance does not specify a process for conducting an assessment or call for the use of actual versus expected performance data and predetermined thresholds.

DOD's Federated Business Enterprise Architecture



Source: GAO analysis. | 2017 High Risk List GAO-17-317

Leadership Commitment

DOD has partially met the criterion for leadership commitment for its federated business enterprise architecture.[12] For example, in May 2014, we reported that the department's Deputy Chief Management Officer required all business systems to be entered into the architecture compliance tool before they could be certified and approved as part of DOD's business system investment management process. In addition, the Office of the Deputy Chief Management Officer has initiated an effort to improve how the department leverages the architecture, and the department has identified several associated milestones. However, as of December 2016, the department had not demonstrated that this effort and the associated milestones had obtained final approval from the Assistant Deputy Chief Management Officer. In addition, as previously discussed, the impact of provisions in the National Defense Authorization Act for

[12]DOD's business enterprise architecture is intended to serve as a blueprint for the department's business transformation efforts. In particular, the architecture is to guide and constrain implementation of interoperable defense business systems by, among other things, documenting the department's business functions and activities and the business rules, laws, regulations, and policies associated with them. In a federated enterprise architecture, member architectures (e.g., Air Force, Army, and Navy) conform to an overarching corporate or parent architecture (e.g., DOD) and use a common vocabulary.

Fiscal Year 2017, and its accompanying conference report, on the business architecture remains to be seen.

Capacity

DOD has met the criterion for capacity by establishing tools and processes intended to improve the department's efforts to identify potentially duplicative systems by leveraging the federated business enterprise architecture. For example, in 2014, the department completed efforts to automate its business architecture compliance review process. According to officials, this automation will improve the department's efforts to identify potentially duplicative systems. In addition, the department's December 2014 problem statement requirements validation guidance called for an enterprise architecture analysis to be conducted to determine if a capability already exists within the organization or elsewhere across the department. Further, the department's April 2015 business enterprise architecture compliance guidance reinforced this guidance by stating that programs should be examined for potential duplication and overlap during the problem statement requirements analysis process, which is to occur early in a program's life cycle.

Action Plan

DOD has not met the criterion for developing an action plan. The department has initiated an effort to improve how it leverages the architecture and identified several associated milestones. However, as of December 2016, the department had not demonstrated that this effort and the associated milestones had been approved by the Assistant Deputy Chief Management Officer.

Monitoring

DOD has not met the criterion for monitoring progress. The department has developed a draft plan to improve how it leverages the architecture and identified several associated milestones. However, as of December 2016, the department had not demonstrated that this effort and the associated milestones had been approved by the Assistant Deputy Chief Management Officer. Without approved plans, DOD lacks a means to monitor progress in leveraging its architecture compliance tool.

Demonstrated Progress

DOD has partially met the criterion for demonstrated progress. For example, the department has established the capacity to identify potentially duplicative investments. DOD has also provided examples of benefits attributed, at least in part, to the department's business enterprise architecture. For example, according to officials from the Office of the Deputy Chief Management Officer, two proposed new defense business system investments were not approved by DOD due, in part, to architecture reviews that revealed the requested capabilities were already available in existing systems. In addition, in November 2016, the department provided examples of programs that had been assessed for potential duplication and overlap based on their associated business activities. Nevertheless, the department has not yet demonstrated that it is actively and consistently using such assessments of potential duplication and overlap to eliminate duplicative systems. The department's draft plan for improving how it leverages its business architecture acknowledges this gap and identifies steps the department can take to improve.

Benefits Achieved by Implementing Our Recommendations

- In 2013, the department took actions to improve its investment management decision making. For example, the department's investment management guidance, issued by the Office of the Deputy Chief Management Officer in April 2013, required the precertification authorities to include any open recommendations from us for program weaknesses, as well as a status update on addressing our recommendations as part of the certification requests. These actions help ensure that DOD's Investment Review Board is provided with identified program weaknesses that can be appropriately considered and thus better inform and justify certification decisions for business systems investments.
- In 2014, the department reported all business system certification actions in its annual report to Congress. Specifically, DOD's 2014 annual report to Congress included, among other things, a list of all certification actions the department took in the previous year on its business systems modernization investments. For example, the report contained an attachment that reported all fiscal year 2014 certification actions, including the amount of funding requested, the amount

approved or disapproved, and any conditions placed on funding not certified or conditionally certified.

- Additionally, fiscal years 2013 and 2014 saw total financial savings of $970 million due to the department cancelling the Air Force's Expeditionary Combat Support System because of significant cost and schedule overages discovered as a result of increased oversight.
- In 2015, the department demonstrated that it took steps to help ensure that it was appropriately reengineering business processes on defense business systems. In particular, as part of DOD's fiscal year 2013 certification and approval process, the department placed conditions on certifications for these business systems requiring that a plan be submitted describing how each system would become compliant with business process re-engineering requirements. DOD officials also provided documentation showing that they tracked these conditions. In addition, DOD has reported much higher levels of compliance with business process reengineering requirements in subsequent annual review cycles. For example, for the fiscal year 2014 and 2015 certification cycles, DOD officials reported that only two systems and six systems, respectively, were approved that did not have complete business process reengineering assertions. Moreover, DOD officials provided justifications for why each of these systems did not have complete business process reengineering assertions.
- In 2016, the Air Force, Army, and Navy developed a plan for addressing core elements described in our Enterprise Architecture Management Maturity Framework.

GAO Contact

For additional information about this high-risk area, contact Carol C. Harris at (202) 512-4456 or HarrisCC@gao.gov.

Related GAO Products

Information Technology Reform: Agencies Need to Increase Their Use of Incremental Development Practices. GAO-16-469. Washington, D.C.: August 16, 2016.

IT Dashboard: Agencies Need to Fully Consider Risks When Rating Their Major Investments. GAO-16-494. Washington, D.C.: June 2, 2016.

DOD Major Automated Information Systems: Improvements Can Be Made in Reporting Critical Changes and Clarifying Leadership Responsibility. GAO-16-336. Washington, D.C.: March 30, 2016.

DOD Business Systems Modernization: Additional Action Needed to Achieve Intended Outcomes. GAO-15-627. Washington, D.C.: July 16, 2015.

Defense Major Automated Information Systems: Cost and Schedule Commitments Need to be Established Earlier. GAO-15-282. Washington, D.C.: February 26, 2015.

DOD Support Infrastructure Management

Why Area Is High Risk

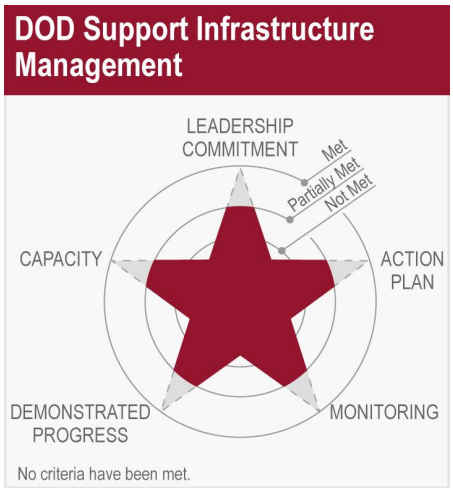
Since our 2015 high-risk update, the Department of Defense (DOD) has shown some improvement in managing its infrastructure to better achieve reductions and efficiencies, and has partially met each of the five criteria for removal from the High-Risk List. For this update, we are consolidating our evaluation of these two areas based on DOD officials' assertion that achieving efficiencies in base support is integrated through numerous programs and efforts at the Office of the Secretary of Defense (OSD), military service, and installation levels, and is incorporated in DOD's overall efforts to efficiently manage its infrastructure. Further, DOD officials stated that the joint basing program is no longer DOD's primary effort for achieving efficiencies in base support services. For these reasons, we are reframing our evaluation to focus generally on DOD's efforts to better align DOD's support infrastructure with the needs of its forces and achieve efficiencies.

DOD manages a global real property portfolio that consists of more than 562,000 facilities—including barracks, commissaries, data centers, office buildings, laboratories, and maintenance depots—located on about 4,800 sites worldwide and covering more than 25 million acres. With a DOD-estimated replacement value of about $880 billion, this infrastructure is critical to maintaining military readiness, and the cost to build and maintain it represents a significant financial commitment.

Since designating this area as high risk in 1997, we have reported on various long-term challenges DOD faces in managing its infrastructure. Specifically, DOD has experienced obstacles reducing excess infrastructure, more efficiently using underutilized facilities, and reducing base support costs, as well as achieving efficiencies by consolidating or eliminating duplicate support services. In our 2015 high-risk update, we categorized the need for improvement into two areas: (1) reducing excess infrastructure, which included disposing of and consolidating facilities under the Base Realignment and Closure (BRAC) process and improving how DOD uses facilities; and (2) achieving efficiencies in base support through joint basing—a program aimed at consolidating support services

by combining bases that are in close proximity or adjacent to one another. We reported that DOD retained significant excess capacity relative to its planned force structure; needed to improve the completeness and quality of its information on how it uses facilities to better manage and use them; and had not realized the anticipated cost savings and efficiencies in reducing duplicative support services through its joint basing program.

What GAO Found



Source: GAO analysis. | 2017 High Risk List GAO-17-317

As cited previously, since our 2015 high-risk update, DOD has shown some improvement in managing its infrastructure to better achieve reductions and efficiencies, and has partially met each of the five criteria for removal from the High-Risk List. Specifically, DOD has demonstrated leadership by requesting more rounds of BRAC—its primary method for reducing excess infrastructure not needed to support its forces. DOD has also showed some improvement in its leadership commitment, capacity, action plans, monitoring, and progress by increasing the completeness of utilization data, publishing an overarching Real Property Efficiency Plan, communicating and addressing issues on consolidating installation services at the joint bases, and reducing excess infrastructure through the Freeze the Footprint policy. However, DOD needs to take additional steps across all five of our high-risk criteria. For example, DOD has not committed to take action on some of our recommendations related to it implementing any future BRAC rounds, such as improving DOD's ability to estimate potential liabilities, and savings to achieve desired outcomes. Further, DOD continues to maintain excess capacity in relation to its force

structure, including long-standing excess facilities, and needs to ensure accuracy of its real property data to better identify potential areas to reduce and consolidate facilities. DOD also needs to address in its plans any actions geared toward achieving efficiencies in base support services, such as through consolidating services. By acting on our recommendations to strengthen its efforts in each of these areas, DOD will be better positioned to align its support infrastructure with the needs of its forces and achieve efficiencies.

What Remains to Be Done

In April 2016, we provided DOD with a letter that outlined 19 actions and outcomes that we believe it should address in order to correct long-standing weaknesses in its support infrastructure management efforts. Based on discussions with DOD officials and recent efforts across the department, as of January 2017, we believe that DOD has addressed 4 of the 19 actions and outcomes related to capacity, monitoring, and demonstrated progress. Specifically, DOD evaluated the purpose of joint basing and whether its goals are still appropriate, reviewed and prioritized standards to ensure a shared framework for managing base support, provided guidance to the joint bases that directs them to identify opportunities for cost savings and efficiencies, and continued to develop an approach to identify and isolate cost savings resulting from consolidating support services at the joint bases. We also added one action on improving the accuracy and completeness of lease data, which we believe will assist DOD in managing its facilities more efficiently. Going forward, DOD needs to show measureable and sustained progress in addressing the remaining 16 actions and outcomes across each of the 5 criteria for removal from the High-Risk List related to improving implementation of any future BRAC rounds, improving facility utilization data, reducing base support costs, and achieving efficiencies in base support.

In September 2016, we also provided DOD with a letter describing the overall status of DOD's implementation of our recommendations, and noted specific open recommendations that we believe the department should give high priority to addressing. Included in the letter were 7 open priority recommendations related to improving initial cost estimates, limiting bundling of stand-alone realignments, developing baseline cost data, and establishing reduction targets for any future BRAC, which are also included in the 16 actions that are part of this high-risk update.

DOD needs to take the following 16 actions to satisfy the five high-risk criteria for DOD support infrastructure management:

Leadership Commitment: For any future BRAC rounds, DOD needs to commit to improve the process for identifying and entering into Cost of Base Realignment Actions (COBRA) requirements for

- military construction,
- information technology,
- relocating personnel and equipment,
- costs for alternatively financed projects, and
- limiting the practice of bundling multiple stand-alone realignments or closures into single recommendations, or when bundling is appropriate, itemize the costs and savings associated with each major discrete action.

DOD should provide clear direction to the joint bases about goals, time frames, and measures in consolidating base support services.

Capacity: DOD needs to

- implement guidance on improving utilization data; and,
- continue to manage the reduction of long-standing excess facilities, such as proactively managing processes to meet historic preservation and environmental requirements and working with host nations to avoid prolonged negotiations over returning excess infrastructure in foreign countries.

Action Plan: DOD needs to include in its plans any actions geared toward reducing duplication or consolidating support services, such as providing measurable goals linked to achieving savings and efficiencies stemming from consolidation at the joint bases.

Monitoring: DOD needs to

- improve the accuracy and completeness of data, including breaking out the cost and square footage information on multiple properties included in a single lease;
- in any future BRAC round, commit to improving the fidelity of initial BRAC cost estimates by working with military services and other appropriate stakeholders to fully identify requirements—the cost of military construction, information technology, and relocating personnel

and equipment, and alternatively financed projects—and limit bundling multiple stand-alone realignments or closures into single recommendations. When bundling is appropriate, itemize the costs and savings associated with each major discrete action;

- direct the military departments to develop baseline cost data, including any consolidation resulting from a future BRAC round; and
- continue to periodically track service-level efforts to reduce excess infrastructure, such as planned service targets to reduce or better use excess space, based on reliable real property data, including information on utilization and leased space.

Demonstrate Progress: DOD needs to

- establish targets for eliminating excess capacity, consistent with the BRAC selection criteria chosen, for any future BRAC rounds;
- assess—using better data on the use of space and better monitoring of DOD-level and service-level efforts— whether its goals and efforts need to be reviewed to align space utilization with mission needs; and
- ensure its plans and programs to achieve reduction goals are implemented and progress monitored, in addition to other actions previously mentioned under the other high-risk criteria.

If Congress authorizes additional BRAC rounds, it may wish to consider amending BRAC legislation to require the Secretary of Defense to formally establish specific goals that the department expects to achieve from a future BRAC process and require DOD to implement our recommendations related to BRAC.[1]

Additional Details on What GAO Found

Leadership Commitment

DOD partially met the criterion for leadership commitment. DOD has demonstrated some top leadership commitment to reducing excess infrastructure and more efficiently managing its infrastructure, but needs to demonstrate further commitment to better managing any future BRAC rounds and providing steps to achieve its joint basing goals, timeframes, and measures in achieving efficiencies in support services. Since 2013,

[1]GAO, *Military Bases: Opportunities Exist to Improve Future Base Realignment and Closure Rounds*, GAO-13-149 (Washington, D.C.: Mar. 7, 2013).

DOD has been successful in reducing excess infrastructure through its past BRAC rounds and has demonstrated leadership in requesting additional BRAC rounds. In addition, since 2013, in coordination with the military services, DOD has developed and implemented more effective and efficient methods to reduce excess infrastructure, such as through more proactively managing DOD's processes to meet historic preservation and environmental requirements. Additionally, DOD has worked with host nations to avoid prolonged negotiations over returning excess infrastructure in foreign countries.

However, DOD needs to demonstrate additional leadership commitment to ensuring the success of any future BRAC rounds by agreeing to implement key actions we have recommended from reviews of the most recent BRAC round. In March and April 2013, we reported that while the BRAC process was fundamentally sound, the way DOD implemented the 2005 BRAC round at times limited its ability to estimate costs, potential liabilities, and savings to achieve desired outcomes. Specifically, we identified a number of issues with DOD's process for estimating BRAC costs and savings, which was hindered in many cases by underestimating recommendation-specific requirements that were entered in the COBRA estimation model. For example, the primary reason costs increased for BRAC 2005 was higher-than-anticipated military construction costs—an increase of 86 percent from $13.2 billion originally estimated by the BRAC Commission to $24.5 billion after BRAC implementation ended in 2011. DOD significantly understated initial requirements inputted into COBRA for information technology costs (e.g., realigning supply, storage, and distribution management initially estimated to be $31 million increased to over $190 million).

Also, DOD understated the costs of relocating military personnel positions and equipment, and did not consistently capture all costs associated with alternatively financed projects. We recommended various actions to improve the quality of information that forms the basis for the costs estimates. In written comments to our March 2013 report, DOD officials did not fully concur with these actions, stating that the COBRA model was not meant for the purposes we recommended. However, more recently, they agreed to take additional action to better forecast the initial costs inputted into COBRA related to military construction, information technology, and relocating military personnel positions and equipment, and have already taken some steps to do so, in support of any future BRAC round. Officials did not agree that liabilities from alternatively financed projects need to be consistently captured in the COBRA model, stating that it is difficult to estimate these costs. However, as we stated in

the April 2013 report, in cases where the amount of the liability cannot be estimated, modifying the model with a capability to note the existence of a potential liability would provide decision makers with valuable information to inform their deliberations. DOD officials also cautioned that costs can increase during implementation of BRAC recommendations which cannot be easily foreseen, and increases in costs are reported to Congress. We agree that costs can and have increased during the implementation of BRAC recommendations. However, the intent of our recommendations are to improve the information provided to decision makers while they are comparing competing scenarios and making closure and realignment decisions, understanding that ultimate costs may differ from these initial estimates.

Further, DOD bundled multiple BRAC recommendations into single, highly complex recommendations without itemizing costs and savings associated with each separate major action, which limited visibility into the estimated costs and savings for individual closures and realignments and complicated the ability of the Defense Base Closure and Realignment Commission (BRAC Commission) to review the recommendations. We recommended actions to improve the quality of information that forms the basis for the cost estimates by limiting the bundling of recommendations, or if bundling is appropriate, to itemize the costs and savings associated with each major discrete action. In the March 2013 report, DOD did not fully concur with these recommendations, stating that actions are bundled when they relate to a common outcome, and thus need to be viewed comprehensively rather than individually. More recently, officials agreed that when bundling is appropriate during any future BRAC round, they would provide additional details related to costs and savings as needed. We are encouraged by DOD's agreement that improvements can be made in the quality of the information that supports BRAC cost estimates, and we continue to believe addressing these issues when planning for any future BRAC rounds will help the department improve initial cost estimates and provide a means for better evaluating the proposed closure and realignment recommendations. Improving its planning processes, including the cost estimates, would also help DOD implement the BRAC process more effectively towards reducing excess capacity and provide more confidence to Congress and the public on DOD's efforts in implementing BRAC actions.

With respect to achieving efficiencies in base support, DOD reported relying on a multitude of efforts and initiatives at the OSD, military service, and installation levels. We have reported on DOD's progress in implementing its joint basing program, one key initiative aimed at

achieving efficiencies in base support. We reported that OSD demonstrated some leadership commitment to addressing issues affecting joint bases by issuing a memo to the Secretaries of the military departments asserting its support for joint basing and clarifying the program goals, but OSD and the military departments have not yet provided detailed guidance on how to meet the goals and related timeframes. DOD's memo outlined key areas for continual success of the program, including continuing to consolidate installation support functions at the bases. While the 2014 memo did not provide detailed guidance on achieving cost savings and efficiencies or provide for milestones, as we have recommended, it affirmed the purpose and goals of the joint bases and demonstrated a commitment to the program.

Continued leadership by DOD, to include implementing our prior recommendations in any future BRAC rounds and focusing its efforts to reduce duplication of support services for its bases, among DOD's other efficiency measures, will be important to sustain efforts to more effectively and efficiently align its infrastructure with its needs.

Capacity

DOD partially met the criterion for capacity. DOD demonstrated its capacity to align its infrastructure with its force's needs by disposing of excess infrastructure during past BRAC rounds, and by consolidating some installation services at the joint bases, among other efficiency efforts. However, DOD needs to ensure the accuracy of its real property data, and implement its utilization guide to improve its ability to identify potential areas to reduce and consolidate its infrastructure. DOD needs to further implement its Real Property Efficiency Plan, which is aimed at disposing of longstanding excess infrastructure.

DOD has improved the way it collects utilization data for its facilities since our 2015 high-risk update, and has issued a guide for calculating utilization to help improve completeness and accuracy of the utilization data. In following up on our September 2014 report recommendations on DOD's use of its facilities, we found that DOD has utilization data on about 97 percent of its facilities as of September 2015, the most recent data available—increasing from 53 percent as of September 2013. However, the utilization rates entered into DOD's database are likely not reliable, since a majority of the facilities (85 percent) have the highest possible rate of 100, which indicates full utilization at the same time that DOD believes it has over 20 percent excess facility capacity. In addition,

of the facilities that have a rating of 100, 24 percent had either no inspection date or been mostly recently inspected prior to September 30, 1999, which calls into question the accuracy of this data. In December 2016, DOD issued a policy memorandum that provided guidance for calculating utilization to ensure utilization is measured and reported consistently throughout DOD, and to maintain current information on facility utilization. As the guidance is implemented, DOD officials expect improvement in the accuracy of utilization data as facilities are assessed and to increase the completeness of utilization data. Implementing the guidance will help focus DOD's efforts on reducing excess facility capacity, and should improve information on the utilization of facilities to position DOD to better identify excess facility capacity in support of its efforts to reduce excess infrastructure.

In addition, we reported in September 2011 that long-standing excess facilities—those identified prior to DOD's demolition program in fiscal 2008—accounted for more than half of the excess inventory DOD identified and may be more costly to eliminate due to historic preservation of certain facilities and environmental issues. We recommended that DOD continue to manage reduction of long-term excess facilities, such as proactively managing processes to meet historic preservation and environmental requirements and working with host nations to avoid prolonged negotiations over returning excess infrastructure in foreign countries. While DOD officials stated that they have been proactively managing historic preservation and environmental requirements, the amount of funding dedicated to future demolition is not consistent with the number of long-standing facilities yet to be demolished. In October 2015, DOD officials developed a DOD Real Property Efficiency Plan that describes DOD's strategic and tactical approach to managing its real property effectively and efficiently, including reduction targets for fiscal years 2016 through 2020. The plan further provides for how DOD expects to dispose of long-standing excess facilities. However, DOD is in the early stages of implementing the plan, and thus it is too early to assess its results. If implemented effectively, the plan should help DOD improve its capacity and ability to identify excess facilities, and to more effectively and efficiently manage its real property.

We also reported that DOD has shown capacity to consolidate installation services at the joint bases. We reported in November 2012 that the joint bases reported meeting common standards more than 70 percent of the time in fiscal years 2010 and 2011. Also, in September 2014, we reported that the joint bases reported partially consolidating 80 percent of their installation functions. However, we noted that without comprehensively

evaluating whether installation support functions were still suitable for consolidation, and without identifying and addressing limitations reported by the joint bases, DOD might not be able to fully consolidate all installation support functions. We recommended that DOD evaluate the support functions identified in its joint base guidance to determine which are still suitable for consolidation, and subsequently identify and make any appropriate changes. In 2015, DOD evaluated the possibility of a European joint base, and removed six support functions that it determined were not suitable because the functions provided limited opportunities for consolidation. In addition, as part of its regular annual review of joint base standards, DOD continues to evaluate which standards are suitable for consolidation. Together, these actions address the intent of our recommendation.

Action Plan

DOD partially met the criterion for having an action plan and has developed plans to better identify and dispose of excess infrastructure, including an overarching Real Property Efficiency Plan. However, these plans do not include actions geared toward improving infrastructure efficiencies related to achieving efficiencies in support services.

DOD developed a number of action plans to reduce infrastructure under various initiatives. These action plans together provide for corrective measures and solutions to reduce excess infrastructure. For example, in October 2015, in response to a requirement under the Office of Management and Budget's (OMB) Reduce the Footprint policy, DOD officials developed a Real Property Efficiency Plan that describes its strategic and tactical approach to managing its real property effectively and efficiently. This plan addresses our September 2014 recommendation to establish a strategic plan to manage DOD's real property and facilitate the department's ability to identify potential consolidation and disposal opportunities. The finalized plan describes goals aligned with the National Strategy for the Efficient Use of Real Property and for reducing the footprint of its real property inventory. The plan also describes the strategies, programs, and methodology for meeting these goals through the real property management policies and procedures of the military departments, and metrics to gauge progress. Implementing the plan, which began in 2016 and is scheduled to run through 2020, will help DOD improve its ability to identify excess facilities and plan for the effective and efficient management of its real property.

However, DOD's plans, such as the Real Property Efficiency Plan, do not address achieving efficiencies in support services. For example, for the joint base program, DOD has not established an action plan, including corrective measures and a timeline to benchmark progress, for achieving cost savings and efficiencies, as we recommended in November 2012 and September 2014. As a result, joint base commanders are responsible for determining to what extent they will pursue initiatives to reduce redundancy and achieve potential cost savings or efficiencies, and the extent to which such initiatives have been pursued varies by joint base. We continue to believe that having an action plan related to reducing duplication and consolidating installation support services would improve DOD's efforts to align its infrastructure to its mission needs and lead to efficiencies in the department's base support efforts.

Monitoring

DOD partially met the criterion for monitoring. DOD has committed to taking actions that would improve its monitoring of any future BRAC rounds, and has demonstrated some ability to monitor its efforts to achieve reductions and efficiencies in infrastructure, but it does not have reliable real property data to effectively monitor property and facility utilization. Specifically, DOD is able to generally monitor excess infrastructure reduced through past BRAC rounds and ongoing property reduction efforts, and has improved its cost data monitoring for the joint bases. For example, DOD has some procedures in place to monitor excess infrastructure reduced from the 2005 BRAC round, the Freeze and Reduce the Footprint policies and each service's efforts at monitoring its infrastructure. Under the Freeze and Reduce the Footprint policies, OMB directed federal agencies to limit expansion of property (no new facilities without disposing of equivalent facilities), provide real property efficiency plans, and plan for and report on the reduction of property. Through DOD's Real Property Efficiency Plan, each military department outlines its methods and metrics for identifying and reducing excess infrastructure, and DOD monitors the military departments' progress towards meeting its reduction goals. However, it is too early to assess the results from the plan since implementation began in 2016 and is scheduled to run through 2020.

While DOD has made progress in improving its monitoring, it needs to improve the reliability of its real property data and the monitoring of costs and savings resulting from any future BRAC rounds. Specifically, as mentioned previously, we reported in September 2011 and September

2014 that DOD does not have reliable real property data to assess how it uses property and facilities. Subsequently, in March 2016 we reported that DOD lacked reliable data to effectively assess how it uses leases. While DOD is taking some steps to address data issues, it cannot fully determine the number, size, and costs of its leases for real property because the real property inventory system that DOD uses to monitor its leased assets contains some inaccurate and incomplete data. For example, we reported that about 15 percent of the lease records for fiscal year 2011 and 10 percent of the records for fiscal year 2013 were inaccurate. We recommended actions to improve the accuracy and completeness of this data, such as breaking out the cost and square footage information on multiple properties included in a single lease. DOD concurred with our findings, but did not concur with our recommended method to update DOD's database. If DOD does not improve the reliability of its data, the department will continue to be limited in its ability to monitor its reduction of excess infrastructure, identify opportunities to consolidate underutilized facilities, and identify opportunities to reduce reliance on costly leased space by moving DOD organizations into excess facilities.

Further, DOD has committed to taking some actions that would improve the monitoring of costs and savings from any future BRAC rounds, although some additional actions are needed. For example, we made a number of recommendations in March 2013 and April 2013 which would help DOD better monitor the implementation and effectiveness of the BRAC recommendations. DOD officials acknowledged that they could improve the initial estimates in future BRAC rounds, and have reported taking some action to do so, including updating standard factors for information technology as part of the European Infrastructure Consolidation effort. However, DOD also needs to consistently capture liabilities from alternatively financed projects in the COBRA model for any future BRAC round. These actions would provide for better baseline data with which to make decisions as well as to track and monitor the results achieved through any future BRAC rounds. We also reported in February 2016 that DOD's implementation of certain BRAC recommendations limited its ability to determine cost savings because it lacked baseline cost data. Despite challenges in isolating cost information, without maintaining such information, DOD cannot determine the budgetary effect of implementing actions to achieve reductions and efficiencies in infrastructure.

With respect to improving baseline cost data for the joint bases, in November 2012, we recommended that DOD continue to develop and

refine the joint bases common standards in order to eliminate data reliability problems, facilitate comparisons of joint basing costs with the costs of operating separate bases, and isolate costs and savings from the joint basing initiative. DOD partially concurred with our recommendation, and stated that it was working to improve the data's reliability but found it impractical to isolate and distinguish joint basing cost savings from the savings that result from unrelated DOD- or service-wide actions. DOD provided guidance to the joint bases to correct baseline data and as a result, the quality of the data improved for fiscal years 2012 and 2013, resulting in a 2013 analysis showing that the joint bases cost less to operate than the separate installations. Together, these actions met the intent of our recommendation and provided DOD with an improved picture of the cost of operating the joint bases.

Demonstrated Progress

DOD partially met the criterion for demonstrated progress. DOD has demonstrated some progress in aligning its infrastructure to its forces' needs by reducing excess infrastructure through BRAC and other service efforts, and in consolidating base support services. Although initially not agreeing to our related recommendations, DOD identified steps to improve the quality of information used to support recommendations for any future BRAC rounds, and improve the accuracy and completeness of utilization data. However, DOD needs to further improve lease data to better identify excess infrastructure for disposal and develop a plan for reducing duplication and consolidating support services to increase the efficiency of the department's infrastructure services.

DOD has also reduced some excess infrastructure, but needs to develop targets for eliminating excess through any future BRAC rounds, and ensure that its plans and programs to reach reduction goals are implemented and progress monitored. DOD did not concur with our recommendation to develop targets for eliminating excess infrastructure through any future BRAC rounds, stating that having overarching targets would subvert developing actions based on military value. However, in further discussion, DOD officials stated that qualitative goals, such as needing to reduce excess infrastructure, are helpful in focusing efforts and measuring success, but they continued to believe that quantitative goals would be in conflict with BRAC selection criteria. We have reported on the soundness of the BRAC selection criteria and generally endorsed their retention for the future, and do not believe that establishing targets for eliminating excess infrastructure affects DOD's ability to apply these

criteria. While we agree that stating a goal in future BRAC rounds, such as reducing excess infrastructure, is useful, we continue to believe that establishing specific targets would assist DOD in measuring progress in reducing excess infrastructure and not harm the department's ability to consider military value as its primary selection criteria. Moreover, DOD would retain the ability to exercise military judgement in selecting from among the candidate recommendations to be put forward to the BRAC commission, as was the case in BRAC 2005 and which we have generally endorsed.

The military services have also demonstrated some progress in reducing excess infrastructure. For example, the services have disposed of and demolished excess facilities through their individual efforts, and under the Freeze the Footprint policy DOD has limited construction of new facilities without disposing of equivalent facilities. Further, for fiscal year 2013, DOD reported a net reduction of 7.7 million square feet, which is about 75 percent of the total reduction across the federal government under this policy. As described above, DOD's Real Property Efficiency Plan outlines goals, strategies and programs to reach goals, and metrics to gauge progress. It will be important for DOD to ensure that the plan is effectively implemented and progress is monitored so that the department can achieve its reduction goals. However, DOD's progress in reducing excess infrastructure is limited by challenges with long-standing excess facilities and unreliable data related to the use of its facilities and of its leased space. Until DOD improves its capacity and monitoring of efforts aimed at reducing long-standing excess facilities, the department cannot fully demonstrate progress in better aligning its infrastructure to its mission needs.

DOD has demonstrated some progress in achieving efficiencies in base support, such as officials reporting reductions of redundant funded positions, contracts, and procedures at the joint bases. DOD's data shows that joint bases are obligating less funding than they would have as stand-alone bases, although some of the savings are attributable to other service actions, such as budget cuts unrelated to joint basing, as noted above. Further, DOD instituted mechanisms to facilitate routine communication to encourage jointly resolving common challenges and sharing best practices and lessons learned. DOD also issued a joint basing handbook to address inconsistent service level guidance. However, DOD has not provided clear direction to joint bases on steps needed to reach program goals, and lacks a plan for reducing duplication and consolidating support services.

Benefits Achieved by Implementing Our Recommendations

- In October 2015, DOD issued its Real Property Efficiency Plan that describes DOD's strategic and tactical approach to managing its real property effectively and efficiently. This plan addresses our September 2014 recommendation to establish a strategic plan to manage DOD's real property and to facilitate the department's ability to identify potential consolidation and disposal opportunities. The finalized plan describes goals aligned with the National Strategy for the Efficient Use of Real Property and for reducing the footprint of DOD's real property inventory. The plan describes strategies, programs, and methodology to achieve these goals through the real property management policies and procedures of the DOD property holders—the three military departments and Washington Headquarters Service. The plan also provides baseline amounts and metrics to gauge progress toward goals established in the plan. As a result, we believe that DOD's plan should help improve its ability to identify excess facilities and plan for effective and efficient management of its real property.
- In May 2015, DOD issued a handbook to provide basic information and clarify processes and procedures for the joint bases. The document is intended to serve as a first point of reference for information about the joint bases and the unique policies and guidance that govern them. This handbook, which addresses how joint bases differ from other military installations among other relevant issues, can better inform incoming servicemembers about the particular characteristics of joint bases, as well as reduce duplication or inconsistency in how the joint bases train incoming servicemembers. This document addresses our November 2012 recommendation for DOD to develop guidance to ensure all joint bases develop and provide training materials to incoming personnel to increase opportunities for greater efficiencies and reduce duplication of efforts.
- In January 2015, DOD evaluated the possibility of a European joint base, and removed six support functions that it determined were not suitable because the functions provided limited opportunities for consolidation. In addition, DOD continues to evaluate which standards are suitable for consolidation in its annual review process. Together these actions address the intent of our September 2014 recommendation to evaluate whether to continue including all current

joint base support functions in future joint basing efforts and to make any changes appropriate to address these limitations.

GAO Contact

For additional information about this high-risk area, contact Brian J. Lepore at (202) 512-4523 or leporeb@gao.gov.

Related GAO Products

Defense Infrastructure: More Accurate Data Would Allow DOD to Improve the Tracking, Management, and Security of Its Leased Facilities. GAO-16-101. Washington, D.C.: March 15, 2016.

Military Base Realignments and Closures: More Guidance and Information Needed to Take Advantage of Opportunities to Consolidate Training. GAO-16-45. Washington, D.C.: February 18, 2016.

DOD Joint Bases: Implementation Challenges Demonstrate Need to Reevaluate the Program. GAO-14-577. Washington, D.C.: September 19, 2014.

Defense Infrastructure: DOD Needs to Improve Its Efforts to Identify Unutilized and Underutilized Facilities. GAO-14-538. Washington, D.C.: September 8, 2014.

Military Bases: DOD Has Processes to Comply with Statutory Requirements for Closing or Realigning Installations. GAO-13-645. Washington, D.C.: June 27, 2013.

Defense Infrastructure: Improved Guidance Needed for Estimating Alternatively Financed Project Liabilities. GAO-13-337. Washington, D.C.: April 18, 2013.

Military Bases: Opportunities Exist to Improve Future Base Realignment and Closure Rounds. GAO-13-149. Washington, D.C.: March 7, 2013.

DOD Joint Bases: Management Improvements Needed to Achieve Greater Efficiencies. GAO-13-134. Washington, D.C.: November 15, 2012.

Military Base Realignments and Closures: Updated Costs and Savings Estimates from BRAC 2005. GAO-12-709R. Washington, D.C.: June 29, 2012.

Excess Facilities: DOD Needs More Complete Information and a Strategy to Guide Its Future Disposal Efforts. GAO-11-814. Washington, D.C.: September 19, 2011.

DOD Approach to Business Transformation

Why Area Is High Risk

The Department of Defense (DOD) has taken some positive steps since the 2015 high-risk update to improve its business transformation efforts.[1] For example, DOD has established the Defense Business Council (DBC) to serve as a senior-level governance forum for its business functions, and issued an Agency Strategic Plan that includes business transformation priorities and which the department is using to guide its business operations. However, additional steps are needed to address long-standing weaknesses in DOD's business operations and remove this issue from the High-Risk List.

DOD spends billions of dollars each year to maintain key business operations intended to support the warfighter, including systems and processes related to the management of contracts, finances, the supply chain, support infrastructure, and weapon systems acquisition. Weaknesses in these areas adversely affect DOD's efficiency and effectiveness, and render its operations vulnerable to waste, fraud, and abuse. DOD's overall approach to transforming these business operations is inextricably linked to DOD's ability to perform its overall mission, directly affecting the readiness and capabilities of U.S. military forces.

We added DOD's overall approach to managing business transformation as a high-risk area in 2005 because DOD had not taken the necessary steps to achieve and sustain business reform on a broad, strategic, department-wide, and integrated basis. Further, DOD's historical approach to business transformation has not proven effective in achieving meaningful and sustainable progress in a timely manner. For example,

[1]The scope of DOD's approach to the business transformation high-risk area encompasses the activities of the Chief Management Officer and Deputy Chief Management Officer in engaging with responsible leaders to influence and oversee business transformation across DOD's business functions to achieve progress. DOD's business functions include: financial management, acquisition, defense security enterprise, installations and environment, logistics, human resources and healthcare management, security cooperation, and enterprise information technology infrastructure.

DOD had not established clear and specific management responsibility, accountability, and control over business transformation-related efforts and applicable resources across business functions. Also, DOD did not have an integrated plan for business transformation with specific goals, measures, and accountability mechanisms to monitor progress and achieve improvements.

What GAO Found

Source: GAO analysis. | 2017 High Risk List GAO-17-317

Since 2005, DOD has demonstrated some leadership commitment and notably improved capacity toward addressing business transformation efforts, such as assigning responsibility for agency goals and objectives. DOD has also taken several notable steps to improve its capacity to monitor DOD's business transformation efforts, such as developing position descriptions for management analysts, and updating the mission for the Office of the Deputy Chief Management Officer's (DCMO) Planning, Performance, and Assessment directorate to fulfill performance management-related requirements. While DOD has demonstrated some progress through undertaking initiatives intended to improve the efficiency of its business processes, DOD has not 1) fully developed a corrective action plan, 2) consistently held performance reviews that include department-wide performance information, and 3) fully established accountability mechanisms for meeting performance targets. Until DOD

makes further progress in addressing these actions and outcomes, its progress in transforming into a more efficient department will be limited.

To date, Congress has passed legislation that could assist DOD in addressing this high-risk area. For example, the National Defense Authorization Act for Fiscal Year 2017, among other things, created a distinct Chief Management Officer (CMO) position effective February 1, 2018, with the mission of managing, establishing policies on, and supervising the business operations of the department. This position would also have the authority to direct the Secretaries of the military departments and the heads of all other DOD components with regard to matters for which the CMO would have responsibility. Before the implementation of this position, the Secretary of Defense is required to conduct a review of the disposition of leadership positions, subordinate organizations, and defined relationships, including the placement and responsibilities of the new CMO position. Specifically, it requires

- a proposed implementation plan for how the Department would implement its recommendations;
- recommendations for revisions to appointments and qualifications, duties and powers, and precedent in the Department;
- recommendations for such legislative and administrative action, including conforming and other amendments to law, as the Secretary considers appropriate to implement the plan; and
- any other matters that the Secretary considers appropriate.

A final report is due to the defense committees by August 1, 2017. Continued congressional attention to addressing this high-risk area will be essential going forward.

What Remains to Be Done

In August 2014, we provided DOD with a letter that outlined 13 actions and outcomes that we believe it should address in order to mitigate or resolve long-standing weaknesses in its business transformation efforts. Based on discussions with DOD officials and recent efforts across the department as of October 2016, we believe that DOD has addressed 5 of the 13 actions and outcomes, but have yet to address 8 actions and outcomes. These actions and outcomes are based on the five high-risk criteria for removal: leadership commitment, capacity, action plan, monitoring, and demonstrated progress. For the capacity criterion, while

we believe the actions and outcomes we have identified remain important, we also believe they have made notable progress in this criterion to be considered as met, such as reviewing the systems and functions of the Office of the DCMO and Office of the Secretary of Defense (OSD) organizations, and improving the alignment of its personnel with the strategic goals in the draft Agency Strategic Plan. For the remaining four criteria, DOD needs to show measureable and sustained positive outcomes in addressing the remaining eight actions and outcomes. This includes, among other things, DOD continuing to hold business function leaders accountable for performance, refining or developing a more comprehensive corrective action plan as well as existing performance measures, and achieving measurable and sustained outcomes.

Leadership Commitment: DOD should

- continue to hold business function leaders accountable for diagnosing performance problems and identifying strategies for improvement; and
- continue to lead regular DOD performance reviews regarding transformation goals and associated metrics and ensure that business function leaders attend these reviews to facilitate problem solving.

Action Plan: DOD should

- refine the performance action plan or develop a corrective action plan that identifies initiatives to address root causes, including critical links that must be present among the initiatives, and the processes, systems, personnel, and other resources needed for their implementation. The corrective action plan should also identify tradeoffs, priorities, and any sequencing needed to implement the initiatives, and help leaders plan for and provide the resources needed to make the corrective actions identified.

Monitoring: DOD should

- continue to refine existing performance measures to ensure that measures assess progress in achieving all business transformation initiatives as needed, and hold owners of DOD's business functions accountable for providing input into performance targets; and
- conduct frequent and regular data-driven performance reviews using established performance measures, and use existing governance structures, such as the DBC, to assess department-wide performance including the military departments.

Demonstrated Progress: DOD should

- make substantial progress in implementing a corrective action plan that includes measures addressing the root causes of shortfalls in business functions, and details how corrective actions designed to improve DOD business functions will be implemented;
- continue to implement initiatives that result in measurable and sustained positive outcomes over several years, including cost savings and increased efficiencies, thus promoting actions that control costs across the department envisioned by the Secretary of Defense, as noted in DOD's 2014 Report to Congress on the Defense Business Operations; and
- document and report on progress in implementing corrective actions across business functions to Congress and other key stakeholders to strengthen accountability; progress could be reported in the annual report to Congress on DOD Business Operations or through other means.

Additional Details on What GAO Found

Leadership Commitment

DOD has taken steps to demonstrate leadership commitment over the department's business transformation efforts and partially meets this criterion. However, DOD's Office of the DCMO has not regularly led performance reviews to hold business function leaders accountable. In July 2015, DOD issued its Agency Strategic Plan for Fiscal Years 2015 – 2018, Version 1.0, which presents DOD's strategic goals, objectives, and a performance management framework that DOD intends to use to evaluate its effectiveness. DOD's Agency Strategic Plan identifies five strategic goals that have associated strategic objectives, performance goals, agency priority goals, or cross-agency priority goals, as well as performance indicators with targets for assessing progress. One of these goals is to reform and reshape the defense institution. As part of the Agency Strategic Plan, OSD Principal Staff Assistants are responsible for reporting progress on performance goals, agency priority goals, or cross-agency priority goals that are linked to DOD's strategic goals and objectives.

OSD Principal Staff Assistants have reported on the progress of meeting these associated goals at the DBC meetings. In June and in August 2016,

the Acting DCMO, through the DBC, conducted performance reviews intended to assess progress against agency priority goals and other performance measures in the Agency Strategic Plan, and provide opportunities to discuss problems and alternatives, among other things. However, these performance reviews have not been conducted on a regular basis. Specifically, prior to June 2016, the DBC had not conducted a performance review since November 2015. Office of the DCMO officials stated that the Acting DCMO plans to conduct a performance review in December 2016 and on a quarterly basis going forward. It will be important for the Acting DCMO to continue to conduct these performance reviews on a regular basis to hold business function leaders accountable for progress.

To further enhance DOD's oversight of its business transformation efforts, the National Defense Authorization Act for Fiscal Year 2017, among other things, created a distinct CMO position with the mission of managing, establishing policies on, and supervising the business operations of the department. This new position, to begin in February 2018, is expected to provide greater management authority to oversee management of business operations, and could help DOD further demonstrate its commitment to addressing business transformation efforts. This new position would also report directly to the Secretary of Defense. The Deputy Secretary of Defense will no longer serve as CMO. However, the effect of this new structure on improving business transformation within DOD remains to be determined, to include the extent to which this position will have the authority and support needed to drive business transformation efforts across the department.

Capacity

The Office of the DCMO has taken several notable steps to improve its capacity to monitor DOD's business transformation efforts and now meets this high-risk criterion. In September 2016, the Acting DCMO stated that DOD conducted a business process and systems review that included reviewing structures and functions within the Office of the DCMO. DOD DCMO officials said that the office completed the review of the Office of the DCMO in September 2014.

The review of the DCMO found that the overall structure of the office was sound from a mission perspective, but also identified opportunities to better align related organizations within the office. For example, the Office of the DCMO's Planning, Performance, and Assessment Directorate was

restructured to create outreach teams aligned to major strategic initiatives that are responsible for establishing goals and objectives. According to DOD officials, as part of this effort, the Office of the DCMO reassessed position descriptions to determine the appropriate structure for the office. The Office of the DCMO also developed position descriptions for management analysts, updated the mission for its Planning, Performance, and Assessment directorate, and reorganized the directorate to align its personnel with the strategic goals in the draft Agency Strategic Plan. They stated that this action was taken to ensure that the Office of the DCMO could work across each business function to accomplish department-wide goals. Further, Office of the DCMO officials stated that the Planning, Performance, and Assessment directorate hired personnel with expertise in strategic planning and performance management to increase its capacity to oversee business transformation efforts. Officials further stated that the directorate has assessed its staff's knowledge, skills, and abilities related to strategic planning and performance management, and monitors progress towards addressing any gaps through annual performance reviews.

DOD has also updated its governance structures to include the Fourth Estate Working Group, which is devoted to addressing business operations-related challenges across DOD's defense agencies, field activities, and OSD.[2] According to Office of the DCMO officials, the working group is used to leverage subject matter expertise, including conducting additional analyses on issues tied to business operations for the Office of the DCMO as needed. It will be important for the Office of the DCMO to continue to use its existing management analysis capacity along with the Fourth Estate Working Group to drive business transformation efforts across the department.

In addition to maintaining the capacity of the DCMO to drive business transformation efforts, it will be critical that the CMO position, established by the National Defense Authorization Act for Fiscal Year 2017, has the personnel and other resources needed to fulfill its significant responsibilities. Since this position will not go into effect until February 2018 and the details of its implementation and responsibilities are not fully

[2]DOD defines the Fourth Estate as DOD organizations, other than the military services, that have DOD manpower resources. These organizations include OSD; the defense agencies; DOD field activities; the Office of the DOD Inspector General; the Joint Staff; and the combatant commands. The Fourth Estate Working Group serves as a governance forum that provides cross-functional review, guidance, and leadership to effectively and efficiently manage and discuss issues for DOD Fourth Estate business transformation efforts as well as provide DOD Fourth Estate business mission area oversight.

known, it is too early to determine whether it will have the capacity needed to lead the department's business transformation efforts. We will monitor DOD's progress in implementing this position moving forward to include its impact on DOD's transformation efforts.

Action Plan

DOD now partially meets this criterion. In July 2015, DOD issued its first Agency Strategic Plan. Subsequently, in September 2016, DOD officials shared its draft update to the Agency Strategic Plan for Fiscal Years 2015 – 2018, Version 2.0. This draft update has a performance action plan that contains some but not all elements of a corrective action plan. The performance action plan is intended to provide detailed information for monitoring and reporting DOD's progress towards each strategic goal, objective, and performance goal as well as, where appropriate, to address actions the department is taking in response to our and DOD Inspector General recommendations. The performance action plan identifies business function leaders for each strategic objective and associated performance goals. In addition, the plan includes, among other things, a description of the problem and opportunity; relationship to strategic goal and objective; key barriers and challenges; mitigation efforts; and an implementation plan, initiatives, and targets for performance measures over time. However, the performance action plan does not define the root causes of business transformation weaknesses or the steps necessary to implement solutions we have recommended in our prior work. Further, the performance action plan does not identify processes and systems to implement initiatives to address root causes, or the tradeoffs needed to implement the initiatives. In January 2017, a senior DOD official stated that DOD does not plan to issue the update to its Agency Strategic Plan, and will instead continue to collect, review, and report on performance data using the draft update until it is superseded. While the continued use of the draft update to the Agency Strategic Plan is a positive step forward, a more comprehensive performance action plan that outlines the necessary elements of a corrective action plan would allow DOD to more effectively hold business function leaders accountable.

Monitoring

DOD now partially meets this criterion. DOD's performance action plan in its draft update to the Agency Strategic Plan contains performance measures intended to measure progress in DOD's business

transformation efforts and establishes clear linkages to performance and resource decisions. However, the Office of the DCMO has not established how it plans to hold owners of DOD business functions accountable for performance or monitor the military departments' business transformation efforts. According to DOD and military department officials, there has been an increased emphasis on reviewing the performance of DOD's business functions as part of the DBC meetings. However, the DBC did not conduct quarterly reviews of performance from November 2015 until June 2016, when the Acting DCMO conducted a briefing of DOD's agency priority goals in June 2016. In September 2016, the Acting DCMO stated that the department plans to conduct quarterly performance reviews against the agency priority goals and other performance measures in the draft update to the Agency Strategic Plan, and in its most recent meeting in December 2016, the DBC conducted a quarterly performance review against these measures. Further, in January 2017, a senior DOD official stated that DOD does not plan to issue the update to its Agency Strategic Plan, and will instead continue to collect, review, and report on performance data using the draft update until it is superseded. Consistently conducting quarterly performance reviews is critical to assessing the department's progress in its business transformation efforts, and issuing an updated Agency Strategic Plan that sets forth DOD's approach to monitoring would further institutionalize such efforts.

In addition, the Office of the DCMO has not established how it plans to hold owners of DOD business functions accountable for performance targets or monitor performance information on the military departments' business transformation goals. Office of the DCMO officials stated that DOD plans to issue guidance on the roles, responsibilities, requirements, and processes for department-wide strategic planning and performance management by the end of fiscal year 2017, including a performance review framework across the entire department to better track consistency in assessing progress. Moving forward, it will be important for the Office of the DCMO to issue this guidance and monitor department-wide performance to more effectively achieve business transformation goals.

Demonstrated Progress

DOD now partially meets this criterion. Since 2014, and in part to respond to congressional direction, DOD has undertaken initiatives intended to improve the efficiency of its business processes, but DOD has not been able to demonstrate clear results associated with these initiatives, as well

as sustained attention and focus consistently across the business functions. DOD guidance states that the DCMO is responsible for working to better synchronize, integrate, and coordinate the business operations of DOD to optimally align them to support the DOD warfighting mission. DOD reviewed headquarters organizations and other DOD entities to identify cost savings, but it is unclear to what extent these initiatives will help the department achieve the savings it has identified. For example, in May 2015, DOD concluded its Core Business Process Review, which was intended to apply lessons learned and information technology approaches from the commercial sector to the department's business processes in order to reduce cost and improve mission performance. Through this review, the Office of the DCMO identified at least $62 billion in potential cumulative savings opportunities across the six business processes for fiscal years 2016 through 2020. The review identified that these potential savings opportunities could be achieved through not replacing civilian personnel who attrite and retire over the next 5 years; matching labor productivity in comparable industries or sectors; and improving core processes, such as rationalizing organizational structures to reduce excessive layers, optimizing contracts, and using information technology to eliminate or reduce manual processes. However, in June 2016, we reported that the potential savings opportunities could not entirely be achieved, according to Office of the DCMO officials. The results of DOD's reviews of headquarters organizations and other DOD entities are still being implemented across the department, and DOD has not yet reported on progress associated with these reviews.

In June 2016, we also reported that the Office of the DCMO began initiatives that, in effect, address the opportunities highlighted by the Core Business Process Review. These initiatives include reducing the number of layers in OSD and its related organizations, and validating contracted services requirements for the Fourth Estate. We reported that the initiatives were not completed or their results could not be validated based on the information the department provided, and therefore it is unclear to what extent these initiatives will contribute toward the cost savings and efficiencies identified by the Core Business Process Review. We have ongoing work assessing the department's progress in achieving efficiencies for delayering, contracted services, and other headquarters-related initiatives. Identifying savings and increased efficiencies from these efforts is important to promoting actions that control costs as envisioned by the Secretary of Defense, and we have cited the need for DOD to implement initiatives that result in measurable and sustained positive outcomes.

The DCMO has used the DBC to continue to focus attention on modernizing its business systems versus more broadly on business transformation issues. While this is important in addressing another DOD high-risk area, the DCMO also needs to place greater attention on improving its business processes across the business functions. Further, the DCMO has not yet documented or reported on progress in implementing any corrective actions across business functions to Congress and other key stakeholders to strengthen accountability.

GAO Contact

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Related GAO Products

Defense Business Transformation: DOD Should Improve Its Planning with and Performance Monitoring of the Military Departments. GAO-17-9. Washington, D.C.: December 7, 2016.

Defense Headquarters: Improved Data Needed to Better Identify Streamlining and Cost Savings Opportunities by Function. GAO-16-286. Washington, D.C.: June 30, 2016.

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