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February 2017

HIGH-RISK SERIES

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

Accessible Version – Part 2

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.

Contents – Part 2

Ensuring the Security of Federal Information Systems and Cyber Critical Infrastructure and Protecting the Privacy of Personally Identifiable Information 357

Strengthening Department of Homeland Security Management Functions 374

Ensuring the Effective Protection of Technologies Critical to U.S. National Security Interests 397

Improving Federal Oversight of Food Safety 411

Protecting Public Health through Enhanced Oversight of Medical Products 423

Transforming EPA's Process for Assessing and Controlling Toxic Chemicals 442

Mitigating Gaps in Weather Satellite Data 457

DOE's Contract Management for the National Nuclear Security Administration and Office of Environmental Management 474

NASA Acquisition Management 501

DOD Contract Management 514

Enforcement of Tax Laws 531

Medicare Program 552

Medicare Improper Payments 579

Medicaid Program 593

Medicaid Improper Payments 611

Improving and Modernizing Federal Disability Programs 622

Pension Benefit Guaranty Corporation Insurance Programs 645

National Flood Insurance Program 656

Managing Risks and Improving VA Health Care 665

Establishing Effective Mechanisms for Sharing and Managing Terrorism-Related Information to Protect the Homeland 695

Appendix III: GAO's 2017 High-Risk List 717

Appendix IV: Accessible Data 719

Data Tables 719

GAO Related Products 728

Tables

Table 7: GAO Assessment of DHS Progress in Addressing Key Outcomes 387
Table 8: Financial Savings from Fiscal Years (FY) 2013-2016: $4,570 million 653
Table 9: Status of GAO Recommendations Related to Department of Veterans Affairs (VA) Health Care from Calendar Year 2010 through Calendar Year 2016 669
Table 10: GAO Recommendations Related to Department of Veterans Affairs (VA) Health Care from Calendar Year (CY) 2010 through CY 2016, by Area of Concern 670
Table 11: Status of Action Items Required to Remove Terrorism-Related Information Sharing from GAO's High-Risk List 699
Table 12: Implementation Plan Priority Objectives Aligned with National Strategy for Information Sharing and Safeguarding Goals 709
Table 13: Descriptions of Completed Implementation Plan Priority Objectives and Examples of Demonstrated Progress 713
Table 14: Descriptions of Remaining Implementation Plan Priority Objectives, Examples of Demonstrated Progress, and What Remains to be Done 714
Table 15: GAO's 2017 High-Risk List 717
Data for Figure 1 Figure 1: Elements of the Information Sharing Environment 719
Data Table for Figure 2: Total Reported U.S. Environmental Liability, Fiscal Year 2016 719

Data Table for Figure 3: DOE's Office of Environmental Management's Annual Spending and Growing Environmental Liability 720
Data Table for Figure 7: Percentage of Career Permanent Employees, on Board as of September 30, 2015, Eligible to Retire by 2020 by Agency 720
Data Table for Figure 9: Projected Cumulative Highway Trust Fund Balance, Fiscal Years 2021 through 2026 (dollars in billions) 721
Data Table for Figure 10: Comparison of Selected Investments' April 2015 CIO Ratings to GAO's Assessments 721
Data Table for 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 721
Data Table for 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 (dollars in billions) 722
Data Table for Figure 13: Total Reported U.S. Environmental Liability, Fiscal Year 2016 722
Data Table for Figure 14: Total Reported Department of Energy Environmental Liability, Fiscal Years 2000 to 2016 722
Data Table for Figure 15: Department of Energy's Office of Environmental Management's Annual Spending and Growing Environmental Liability 723
Data Table for Figure 16: Total Reported Department of Defense Environmental Liability, Fiscal Years 2000 to 2016 723
Data Table for Figure 17: Change in Reported Environmental Liability for Selected Agencies, Fiscal Years 2000 to 2016 724
Data Table for Figure 18: Comparison of the Cost Performance of DOD's 2011-2015 Portfolios 724
Data Table for Figure 19: Growth Trends in Total Medicaid Spending by Eligibility Group (dollars in billions) 725
Data Table for Figure 20: Medicaid Expenditures for Long-Term Services and Supports, Fiscal Years 1994-2014 725
Data Table for Figure 21: PBGC's Net Financial Position of the Single-Employer and Multiemployer Programs Combined – Net Position (in billions of dollars) 726
Data for Figure 22: Elements of the Information Sharing Environment 727

Figures

Figure 19: Growth Trends in Total Medicaid Spending by Eligibility Group 595
Figure 20: Medicaid Expenditures for Long-Term Services and Supports, Fiscal Years 1994-2014 606
Figure 21: PBGC's Net Financial Position of the Single-Employer and Multiemployer Programs Combined – Net Position (in billions of dollars) 646
Figure 22: Elements of the Information Sharing Environment 696

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Ensuring the Security of Federal Information Systems and Cyber Critical Infrastructure and Protecting the Privacy of Personally Identifiable Information

Why Area Is High Risk

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.[1] The security of these systems and data is vital to public confidence and the nation's safety, prosperity, and well-being.

However, safeguarding federal computer systems and the systems that support critical infrastructures—referred to as cyber critical infrastructure protection—has been a long-standing concern. The security of federal cyber assets has been on our High-Risk List since 1997. In 2003, we expanded this high-risk area to include the protection of critical cyber infrastructure. In 2015, we added protecting the privacy of personally

[1]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 (IT); nuclear reactors, materials, and waste; transportation systems; and water and wastewater systems.

identifiable information (PII) that is collected, maintained, and shared by both federal and nonfederal entities.[2]

Over the last several years, we have made about 2,500 recommendations to agencies aimed at improving the security of federal systems and information. These recommendations identified actions for agencies to take to strengthen technical security controls over their computer networks and systems. They also include recommendations for agencies to fully implement aspects of their information security programs, as mandated by the Federal Information Security Modernization Act (FISMA) of 2014 and its predecessor, the Federal Information Security Management Act of 2002, and to protect the privacy of PII held on their systems. However, many agencies continue to be challenged in safeguarding their information systems and information, in part because many of these recommendations have not been implemented. As of October 2016, about 1,000 of our information security–related recommendations had not been implemented.

Risks to cyber assets can originate from unintentional and intentional threats. These include insider threats from disaffected or careless employees and business partners, escalating and emerging threats from around the globe, the steady advances in the sophistication of attack technology, and the emergence of new and more destructive attacks. 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.

Regarding PII, advancements in technology, such as new search technology and data analytics software for searching and collecting information, have made it easier for individuals and organizations to correlate data and track it across large and numerous databases. In addition, lower data storage costs have made it less expensive to store vast amounts of data. Also, ubiquitous Internet and cellular connectivity makes it easier to track individuals by allowing easy access to information pinpointing their locations. These advances—combined with the increasing sophistication of hackers and others with malicious intent, and

[2]PII is any information that can be used to distinguish or trace an individual's identity, such as name, date and place of birth, Social Security number, or other types of personal information that can be linked to an individual, such as medical, educational, financial, and employment information.

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.

What GAO Found

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

Leadership at the White House and Department of Homeland Security (DHS) demonstrated commitment to improving cybersecurity. For example, the President issued strategy documents for improving aspects of cybersecurity and an executive order (E.O.) and policy directive for improving security and resilience of critical cyber infrastructure. However, challenges remain, such as shortages in qualified cybersecurity personnel and continued weaknesses in agencies' information security programs. These challenges need to be addressed as initial steps toward removal from the High-Risk List. Furthermore, progress will need to be demonstrated by agencies fully implementing their information security programs and by critical infrastructure sectors improving their cybersecurity.

In addition, Congress enacted legislation intended to strengthen information security across the federal government and to improve the protection of critical cyber assets. The Cybersecurity Act of 2015

established a voluntary framework for sharing cybersecurity threat information between and among the federal government, state governments, and private entities, and protects private sector entities from liability when sharing and receiving cyber threat information.[3] The act also makes DHS's National Cybersecurity and Communications Integration Center responsible for implementing these mechanisms, requires DHS to offer its intrusion and detection capabilities to any federal agency, and calls for agencies to assess their cyber-related workforce.

What Remains to Be Done

- Executive Office of the President (EOP) and federal agencies should implement our approximately 1,000 open recommendations, especially those related to implementing risk-based information security programs.
- The federal government should effectively execute the steps in the government-wide plans, including the Cybersecurity Strategy and Implementation Plan for the Federal Civilian Government,[4] Cybersecurity National Action Plan,[5] and Federal Cybersecurity Workforce Strategy.[6]
- The federal government needs to resolve the government-wide material weakness in information security for 2 consecutive years and reduce factors that contribute to a significant deficiency, as we

[3]The *Cybersecurity Act of 2015* was enacted as Division N of the Consolidated Appropriations Act, 2016, Pub. L. No. 114-113, Dec. 18, 2015.

[4]Office of Management and Budget, *Cybersecurity Strategy and Implementation Plan for the Federal Civilian Government*, OMB Memorandum M-16-04 (Washington, D.C.: Oct. 30, 2015).

[5]The White House, Office of the Press Secretary, *Fact Sheet: Cybersecurity National Action Plan* (Washington, D.C.: Feb. 9, 2016).

[6]Office of Management and Budget, *Federal Cybersecurity Workforce Strategy*, OMB Memorandum M-16-15 (Washington, D.C.: July 12, 2016).

reported in our annual audits of the financial statements for the United States government.[7]

- Federal agencies need to effectively implement risk-based, entity-wide information security programs consistently over time. The following actions will assist agencies in implementing their information security programs:
  - enhance capabilities to effectively identify cyber threats to agency high-impact systems and information,
  - implement sustainable processes for securely configuring information systems and networks,
  - patch vulnerable systems and replace unsupported software,
  - develop comprehensive security test and evaluation procedures and conduct these examinations on a regular and recurring basis, and
  - strengthen oversight of contractors providing information technology (IT) services.
- The federal government needs to improve its abilities to detect, respond to, and mitigate cyber incidents. The following actions will assist the federal government in these efforts:
  - DHS needs to expand capabilities, improve planning, and support wider adoption of its government-wide intrusion detection and prevention system.
  - Agencies need to develop and implement complete policies, plans, and procedures for responding to cyber incidents and effectively oversee response activities.
  - Agencies need to consistently implement policies and procedures for responding to breaches of PII.
- The federal government needs to expand its cyber workforce planning and training efforts. Agencies need to

[7]A material weakness is a deficiency, or combination of deficiencies, that results in more than a remote likelihood that a material misstatement on the financial statements will not be prevented or detected. A significant deficiency is a deficiency, or combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance. A control deficiency exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect and correct misstatements on a timely basis.

  - enhance efforts for recruiting and retaining a qualified cybersecurity workforce and
  - improve cybersecurity workforce planning activities.
- The federal government needs to expand efforts to protect cyber critical infrastructure. For example:
  - DHS and sector-specific agencies need to collaborate with sector partners to develop performance metrics and determine how to overcome challenges to reporting the results of their cyber risk mitigation activities; and
  - DHS needs to assess whether its efforts to share information on cyber threats, incidents, and countermeasures with federal and non-federal entities are useful and effective.
- The federal government needs to better oversee the protection of PII contained in electronic health information and health insurance marketplaces. Needed efforts include the following:
  - Department of Health and Human Services (HHS) needs to enhance its oversight and guidance related to the actions to protect privacy implemented by entities that maintain electronic health information.
  - HHS's Centers for Medicare & Medicaid Services (CMS) needs to ensure that Healthcare.gov and state health insurance marketplaces have effective controls in place to safeguard electronic health information.
- Congress should consider amending privacy laws to more fully protect the PII collected, used, and maintained by the federal government.

Additional Details on What GAO Found

Leadership Commitment

The EOP and DHS met the criterion of demonstrating top leadership commitment to securing federal information and protecting the privacy of PII. For example, the President signed legislation, issued executive orders and a policy directive, and published a national action plan that were intended to improve aspects of federal information security, privacy safeguards, and critical infrastructure cybersecurity. In addition, updated guidance, as well as actions such as creating positions for a senior advisor for privacy and federal chief information security officer within the Office of Management and Budget (OMB), further demonstrated the

extent to which the EOP was committed to securing federal information systems and protecting privacy. Specific actions taken by the administration and DHS included the following:

- In July 2016, the President released Presidential Policy Directive (PPD)-41 which set forth principles governing the federal government's response to cyber incidents involving government or private sector entities.[8] For significant cyber incidents, this PPD establishes lead federal agencies and a process for coordinating the broader federal government response. PPD-41 also requires the Department of Justice (DOJ) and DHS to maintain updated contact information for public use to assist entities affected by cyber incidents in reporting those incidents to the proper authorities.
- In February 2016, the President issued E.O. 13719, which created the Federal Privacy Council, a council of senior federal privacy officials established to share ideas and best practices and develop new approaches for protecting privacy in today's technology driven environment.[9] The President also directed his administration to systematically review where the federal government can reduce reliance on Social Security numbers.
- In February 2015, the President issued E.O. 13691, Promoting Private Sector Cybersecurity Information Sharing, to encourage the formation of organizations and mechanisms to share information related to cybersecurity risks and incidents among private companies, nonprofit organizations, executive departments and agencies, and other entities and to collaborate to respond in as close to real time as possible.[10]
- In July 2016, OMB issued a revised Circular A-130, Managing Information as a Strategic Resource, to reflect changes in law and advances in technology and to ensure consistency with executive orders, presidential directives, recent OMB policy, and National Institute of Standards and Technology (NIST) standards and guidelines. [11] The revised circular establishes general policy for, among other things, information governance, security, and privacy. It incorporates security and privacy requirements as crucial elements of

[8]PPD-41, United States Cyber Incident Coordination, July 26, 2016.

[9]E.O. 13719 (Feb. 9, 2016); 81 Fed. Reg. 7687 (Feb. 12, 2016).

[10]E.O. 13691 (Feb. 13, 2015); 80 Fed. Reg. 9347 (Feb. 20, 2015).

[11]Office of Management and Budget, *Managing Federal Information as a Strategic Resource,* OMB Circular A-130 (Washington, D.C.: July 28, 2016).

a comprehensive, strategic, and continuous risk-based program at federal agencies.

- DHS established the Critical Infrastructure Cyber Community (C3) Voluntary Program to encourage entities to adopt NIST's Framework for Improving Critical Infrastructure Cybersecurity.[12] As part of this program, DHS developed guidance and tools that are intended to help entities use the framework. The C3 Voluntary Program also includes outreach and awareness activities, promotion efforts targeting specific types of entities, and creation of communities of interest around critical infrastructure cybersecurity.

Capacity

The EOP and DHS partially met the criterion for improving the capacity of federal agencies to sufficiently protect their information systems and PII. Resources and initiatives were identified to address federal cybersecurity capacity concerns. Increased budgetary resources and human capital strategies were proposed to address limitations on federal cybersecurity capacity. For example, the President's 2017 budget request proposed funds to enhance the Scholarship for Service program, develop a cybersecurity core curriculum, increase the number of academic institutions that are National Centers for Academic Excellence in Cybersecurity, and offer student loan forgiveness for cybersecurity experts in the federal workforce. The President's 2017 budget also proposed investing $19 billion in cybersecurity, an increase of about 35 percent over fiscal year 2016.

Nevertheless, according to OMB and agency chief information security officers, the federal government suffered from a shortage of cybersecurity professionals due to persistent recruitment and retention challenges. Also, it is unclear the extent to which efforts to improve the capacity of the cybersecurity workforce, among other cybersecurity-related initiatives, were focused on increasing resources at agencies devoted to privacy protection. Executing the human resources strategy and budget priorities could ensure that federal agencies have the necessary capacity to better address the information security and PII protection needs of federal civilian agencies.

[12]National Institute of Standards and Technology, *Framework for Improving Critical Infrastructure Cybersecurity* (Feb. 12, 2014).

Action Plan

The EOP and DHS partially met the criterion for having a corrective action plan to improve the protection of cyber assets and PII. Government-wide plans identified actions to be taken to enhance cybersecurity and PII protection. Examples included the following:

- OMB issued the Cybersecurity Strategy and Implementation Plan in October 2015. The plan aimed to strengthen federal civilian cybersecurity by (1) identifying and protecting high-value information and assets, (2) detecting and responding to cyber incidents in a timely manner, (3) recovering rapidly from incidents when they occur and accelerating the adoption of lessons learned, (4) recruiting and retaining a highly qualified cybersecurity workforce, and (5) efficiently acquiring and deploying existing and emerging technology.
- The President directed his administration to implement the Cybersecurity National Action Plan. The plan identified near-term actions and a long-term strategy that are intended to enhance cybersecurity awareness and protections, protect privacy, maintain public safety and economic and national security, and empower Americans to take better control of their digital security.
- OMB issued the Federal Cybersecurity Workforce Strategy on July 12, 2016, which identified key actions to help recruit and retain a federal cybersecurity workforce. These key actions included directions to OMB and the Office of Personnel Management (OPM) to provide guidance on the use of special hiring authorities to recruit cybersecurity professionals as well as directions to DHS for piloting a new hiring tool.

However, agencies had not yet fully implemented the actions identified in the plans and strategy. In addition, the plans do not consistently address the implementation of about 1,000 of our information security–related recommendations identified across federal agencies.

Monitoring

The EOP, DHS, and federal agencies partially met the criterion for implementing programs to monitor corrective actions related to cybersecurity and PII protection. A government-wide reporting process provided a mechanism for monitoring the efforts of federal agencies in achieving cross-agency priority goals for cybersecurity. Specifically, the EOP and DHS developed and used metrics for measuring agency

progress in implementing initiatives on information security regarding continuous monitoring, strong authentication, and anti-phishing and malware defense. In addition, OMB and DHS continued to monitor agencies' implementation of information security requirements using FISMA reporting metrics that are tracked in the CyberScope system.[13] Together, they had conducted CyberStat reviews that are intended to hold agencies accountable and offer assistance for improving their information security posture.[14]

Nevertheless, other cybersecurity monitoring efforts lacked metrics to measure and report on the effectiveness of the planned and implemented activities. Examples included the following:

- In December 2015, we reported that DHS had not developed metrics to measure the effectiveness of its efforts to promote the voluntary use of NIST's Framework for Improving Critical Infrastructure Cybersecurity or to develop guidance and tools to help entities use the framework.[15] We recommended that DHS develop metrics to monitor the effectiveness of its efforts to promote the framework. DHS agreed and indicated that these efforts are underway.
- In November 2015, we reported that the sector-specific agencies—federal agencies responsible for leading, facilitating, or supporting the security and resilience programs and associated activities of their designated critical infrastructure sectors—had taken actions to help mitigate cyber risks and vulnerabilities for their respective sectors.[16] However, most sector-specific agencies had not developed metrics to measure and report on the effectiveness of their cyber risk mitigation activities or their sectors' cybersecurity posture. We recommended that federal agencies develop performance metrics to monitor their progress. These metrics have not yet been developed.

[13]CyberScope is an interactive data collection tool that has the capability to receive data feeds on a recurring basis to assess the security posture of a federal agency's information infrastructure.

[14]CyberStat reviews are in-depth sessions with national security staff, OMB, DHS, and an agency to discuss that agency's cybersecurity posture and discuss opportunities for collaboration.

[15]GAO, *Critical Infrastructure Protection: Measures Needed to Assess Agencies' Promotion of the Cybersecurity Framework,* GAO-16-152 (Washington, D.C.: Dec. 17, 2015).

[16]GAO, *Critical Infrastructure Protection: Sector-Specific Agencies Need to Better Measure Cybersecurity Progress*, GAO-16-79 (Washington, D.C.: Nov. 19, 2015).

Demonstrated Progress

The EOP, DHS, and federal agencies partially met this criterion by demonstrating progress in implementing the many requirements for securing federal systems and networks. For example, the federal government had taken the following steps to enhance cybersecurity and protect PII:

- The EOP established an OMB Cyber Unit in January 2015 to improve overall federal cybersecurity oversight.
- OMB initiated a 30-day Cybersecurity Sprint in June 2015 to lead federal agencies to adopt strong authentication controls and deploy critical patches.
- OMB and DHS conducted CyberStat reviews at federal agencies during fiscal years 2015 and 2016.

Nevertheless, federal agencies need to consistently demonstrate progress in the following areas:

- **Designing and implementing risk-based cybersecurity programs at federal agencies.** Shortcomings persist in assessing risks, developing and implementing security controls, and monitoring results at federal agencies. We and agency inspectors general have consistently identified weaknesses in agency processes for configuring security in information systems and networks, patching systems, replacing unsupported software, testing and evaluating security controls on a comprehensive and recurring basis, and overseeing contractors who provide IT services. We have identified information security as a government-wide material weakness in our annual audits of the consolidated financial report of the United States government in every year since 1997. As of February 7, 2017, 19 of 23 Chief Financial Officers (CFO) Act agencies reported that information security control deficiencies were either a material weakness or significant deficiency in internal controls over financial reporting for fiscal year 2016.[17] Further, inspectors general at 20 of the 23 agencies cited information security as a major management challenge for their agencies.
- **Providing government-wide intrusion detection and prevention services.** In January 2016, we reported that DHS's National

[17]As of February 7, 2017, the Department of Defense, 1 of the 24 CFO Act agencies, had not reported results of audits of its financial statements for fiscal year 2016.

Cybersecurity Protection System (NCPS) was partially, but not fully, meeting its stated system objectives of detecting intrusions, preventing intrusions, analyzing malicious content, and sharing information.[18] DHS also had not developed metrics for measuring the performance of NCPS. We recommended that DHS take action to enhance NCPS's capabilities, among other things. DHS concurred with our recommendations but has not yet fully implemented them.

- **Strengthening security over industry and public health data at FDA.** In August 2016, we reported that the Food and Drug Administration (FDA) had a significant number of security control weaknesses jeopardizing the confidentiality, integrity, and availability of its information and systems.[19] The agency did not fully or consistently implement access controls, which are intended to prevent, limit, and detect unauthorized access to computing resources. Specifically, FDA did not always (1) adequately protect the boundaries of its network, (2) consistently identify and authenticate system users, (3) limit users' access to only what was required to perform their duties, (4) encrypt sensitive data, (5) consistently audit and monitor system activity, and (6) review the physical security of its facilities. We made 15 recommendations to FDA to fully implement its agency-wide information security program. In a separate report with limited distribution, we recommended that FDA take 166 specific actions to resolve weaknesses in information security controls. FDA concurred with our recommendations and stated it has begun implementing many of them.
- **Improving security controls over high-impact systems.[20]** In May 2016, we reported that 18 federal agencies with high-impact systems identified cyberattacks from "nations" as the most serious and most

[18]GAO, *Information Security: DHS Needs to Enhance Capabilities, Improve Planning, and Support Greater Adoption of its National Cybersecurity Protection System*, GAO-16-294 (Washington, D.C.: Jan. 28, 2016).

[19]GAO, *Information Security: FDA Needs to Rectify Control Weaknesses That Place Industry and Public Health Data at* Risk, GAO-16-513 (Washington, D.C.: Aug. 30, 2016).

[20]NIST Federal Information Processing Standards Publication 199, *Standards for Security Categorization of Federal Information and Information Systems* (FIPS Pub 199) defines how agencies should determine the security category of their information and information systems. Agencies are to consider the potential effect or magnitude of harm that could occur should there be a loss in the confidentiality, integrity, or availability of the information or information system as low, moderate, or high. For high-impact systems, the loss could be expected to have a severe or catastrophic adverse effect on organizational operations, organizational assets, or individuals.

frequently occurring threat to the security of their systems.[21] These agencies also noted that attacks delivered through e-mail were the most serious and frequent. During fiscal year 2014, 11 of the 18 agencies reported 2,267 incidents affecting their high-impact systems, with almost 500 of the incidents involving the installation of malicious code. At least half of the 18 agencies reported that challenges in recruiting and retaining staff with appropriate skills, rapidly changing technologies, and the limited effectiveness of intrusion detection tools impaired their capability to identify cyber threats to high-impact systems to a great or moderate extent.

We also examined the security controls over eight high-impact systems at four agencies and reported that although the agencies had implemented numerous controls over the systems, they did not always fully implement key elements of their information security programs including developing security plans, assessing security controls, and remedying known vulnerabilities. We recommended that OMB complete its plans and practices for securing federal systems and that the National Aeronautics and Space Administration, Nuclear Regulatory Commission, OPM, and Department of Veterans Affairs fully implement key elements of their information security programs. The agencies generally concurred with the recommendations, with the exception of OPM. OPM did not concur with our recommendation to re-evaluate security control assessments to ensure they comprehensively test technical controls. We continue to believe the recommendation is warranted.

- **Addressing cybersecurity for the nation's critical infrastructures.** In December 2015, we reported that agencies responsible for supporting protection efforts in critical infrastructure sectors and NIST had promoted and supported adoption of NIST's Framework for Improving Critical Infrastructure Cybersecurity in the critical infrastructure sectors.[22] For example, DHS established the Critical Infrastructure Cyber Community Voluntary Program to encourage entities to adopt the framework. However, DHS had not developed metrics to measure the success of its activities and programs. In addition, DHS and the General Services Administration (GSA) had not determined whether to develop tailored guidance for implementing the framework in government facilities sectors as other sector-specific agencies had done for their respective sectors. DHS concurred with

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

[22]GAO-16-152.

our recommendation to develop metrics, but has not indicated that it has taken action as of yet, and DHS and GSA concurred with our recommendation and made a determination about whether to develop sector-specific guidance.

In November 2015, we reported that the sector-specific agencies had determined the significance of cyber risk to the nation's critical infrastructures and took actions to mitigate cyber risks and vulnerabilities for their respective sectors.[23] However, not all sector-specific agencies had metrics to measure and report on the effectiveness of all their activities to mitigate cyber risks or their sectors' cybersecurity posture. We recommended that agencies lacking metrics develop them and determine how to overcome any challenges to reporting the results of their activities to mitigate cyber risks. Four of the agencies explicitly agreed with our recommendations and identified planned or on-going efforts to implement performance metrics, but none have yet to provide developed metrics or reports of outcomes.

- **Protecting the security and privacy of electronic health information.** In August 2016, we reported that guidance for securing electronic health information issued by HHS did not address all key controls called for by other federal cybersecurity guidance.[24] In addition, HHS oversight efforts did not always offer pertinent technical guidance and did not always follow up on corrective actions when investigative cases were closed. HHS generally concurred with the five recommendations we made and stated it would take actions to implement them. Information about actions taken to address the recommendations had not been provided at the time of this report.
- **Ensuring privacy when face recognition systems are used.** In May 2016, we reported that the Federal Bureau of Investigation (FBI) had not been timely in publishing and updating privacy documentation for using face recognition technology.[25] Publishing such documents in a timely manner would better assure the public that the FBI is evaluating risks to privacy when implementing systems. Also, the FBI had taken limited steps to determine whether the face recognition system it was using was sufficiently accurate. Of the six

[23] GAO-16-79.

[24] GAO, *Electronic Health Information: HHS Needs to Strengthen Security and Privacy Guidance and Oversight*, GAO-16-771 (Washington, D.C.: Aug. 26, 2016).

[25] GAO, *Face Recognition Technology: FBI Should Better Ensure Privacy and Accuracy*, GAO-16-267 (Washington, D.C.: May 16, 2016).

recommendations we made, DOJ agreed with one, partially agreed with two, and disagreed with three. Information about actions taken to address the recommendations had not been provided at the time of this report.

- **Protecting the privacy of users' data on state-based marketplaces.** In March 2016, we reported on weaknesses in technical controls for the "data hub" that CMS uses to exchange information between its health insurance marketplace and external partners.[26] We also identified significant weaknesses in the controls in place at three selected state-based marketplaces established to carry out provisions of the Patient Protection and Affordable Care Act.[27] We recommended that CMS define procedures for overseeing the security of state-based marketplaces and require continuous monitoring of state marketplace controls. HHS concurred with our recommendations. Information about actions taken to address the recommendations had not been provided at the time of this report.
- **Improving consumer privacy protections.** Major recommendations of the administration's 2012 report on consumer privacy had not yet been implemented in 2016. The report included a framework as a broad action plan intended to improve consumer privacy protection, yet the administration's recommendations to enact a consumer privacy bill of rights into law and to establish a national standard for data breach notification had not been implemented.

Benefits Achieved by Implementing Our Recommendations

- **Establishing a strategy for improving federal cybersecurity**. In October 2015, OMB issued the Cybersecurity Strategy and Implementation Plan, which identified a series of action steps in several key areas that are intended to improve federal information security. As we had recommended in February 2013, the strategy clearly assigns responsibilities to specific organizations and individuals, sets specific dates for completing actions, and establishes

[26]GAO, *Healthcare.gov: Actions Needed to Enhance Information Security and Privacy Controls,* GAO-16-265 (Washington, D.C.: Mar. 23, 2016).

[27]Pub. L. No. 111-148, 124 Stat. 119 (Mar. 23, 2010), as amended by the Health Care and Education Reconciliation Act of 2010, Pub. L. No. 111-152,124 Stat.1029 (Mar. 30, 2010).

a mechanism for monitoring progress.[28] Implementing the strategy effectively and on time will likely improve the overall posture and capabilities of the federal government to protect its information and computer systems and networks.

- **Bolstering information security at federal agencies**. Over the last 4 fiscal years, federal agencies have implemented over 330 of our recommendations related to strengthening the security over sensitive information and systems at the Census Bureau, Federal Communications Commission, Internal Revenue Service, Federal Deposit Insurance Corporation, Securities Exchange Commission, CMS, and Federal Aviation Administration, among others. Security vulnerabilities expose agency information to increased risk of unauthorized access, disclosure, modification, and use. Addressing vulnerabilities better assures the confidentiality, integrity, and availability of the information agencies maintain and use for conducting their missions.
- **Improving privacy protections for PII.** While more needs to be done, agencies have taken action in response to our recommendations for specific steps to enhance the protection of PII. For example, agencies have implemented 8 of the 23 recommendations we made in 2013 to improve their practices in response to breaches of PII, improvements which can improve the consistency and effectiveness of data breach response programs. Likewise, HHS has implemented all 6 management recommendations we made in 2014 to ensure that PII contained in systems supporting the Healthcare.gov health insurance marketplace is properly protected from potential privacy threats.

GAO Contact

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Related GAO Products

Federal Information Security: Actions Needed to Address Challenges. GAO-16-885T. Washington, D.C.: September 19, 2016.

[28]GAO, *Cybersecurity: National Strategy, Roles, and Responsibilities Need to Be Better Defined and More Effectively Implemented*, GAO-13-187 (Washington, D.C.: Feb. 14, 2013).

Electronic Health Information: HHS Needs to Strengthen Security and Privacy Guidance and Oversight. GAO-16-771. Washington, D.C.: August 26, 2016.

Federal Chief Information Security Officers: Opportunities Exist to Improve Roles and Address Challenges to Authority GAO-16-686. Washington, D.C.: August 26, 2016.

Information Security: FDA Needs to Rectify Control Weaknesses That Place Industry and Public Health Data at Risk. GAO-16-513. Washington, D.C.: August 30, 2016.

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

Vehicle Cybersecurity: DOT and Industry Have Efforts Under Way, but DOT Needs to Define Its Role in Responding to a Real-world Attack. GAO-16-350. Washington, D.C.: March 24, 2016.

SmartPhone Data: Information and Issues Regarding Surreptitious Tracking Apps That Can Facilitate Stalking. GAO-16-317. Washington, D.C.: April 21, 2016.

Information Security: DHS Needs to Enhance Capabilities, Improve Planning, and Support Greater Adoption of Its National Cybersecurity Protection System. GAO-16-294. Washington, D.C.: January 28, 2016.

Healthcare.gov: Actions Needed to Enhance Information Security and Privacy Controls. GAO-16-265. Washington, D.C.: March 23, 2016.

Critical Infrastructure Protection: Sector-Specific Agencies Need to Better Measure Cybersecurity Progress. GAO-16-79. Washington, D.C.: November 19, 2015.

Strengthening Department of Homeland Security Management Functions

Why Area Is High Risk

The Department of Homeland Security's (DHS) top leadership, including the Secretary and Deputy Secretary of Homeland Security, has demonstrated exemplary commitment and support for addressing the department's management challenges. However, DHS needs to continue implementing its *Integrated Strategy for High Risk Management* and maintain engagement with us to show measurable, sustainable progress in implementing corrective actions and achieving outcomes. In 2003, we designated implementing and transforming DHS as high risk because DHS had to transform 22 agencies—several with major management challenges—into one department. Further, failure to effectively address DHS's management and mission risks could have serious consequences for U.S. national and economic security. Given the significant effort required to build and integrate a department as large and complex as DHS, our initial high-risk designation addressed the department's implementation and transformation efforts to include associated management and programmatic challenges. At that time, we reported that the creation of DHS was an enormous undertaking that would take time to achieve, and that successfully transforming large organizations, even those undertaking less strenuous reorganizations, could take years to implement.

Over the past 14 years, the focus of this high-risk area has evolved in tandem with DHS's maturation and evolution. The overriding tenet has consistently remained DHS's ability to build a single, cohesive, and effective department that is greater than the sum of its parts—a goal that requires effective collaboration and integration of its various components and management functions. In 2007, in reporting on DHS's progress since its creation, as well as in our 2009 high-risk update, we reported that DHS had made more progress in implementing its range of missions than its management functions—acquisition, information technology (IT), financial, and human capital—and that continued work was needed to

address an array of management and programmatic challenges. As we reported in September 2011, DHS's initial focus on mission implementation was understandable given the critical homeland security needs facing the nation after the department's establishment, and the challenges posed by creating, integrating, and transforming it.[1]

As DHS continued to mature, and as we reported in our assessment of DHS's progress and challenges in the 10 years following 9/11, we found that the department implemented key homeland security operations and achieved important goals in many areas to create and strengthen a foundation to reach its potential. For example, DHS developed strategic and operational plans to guide its efforts—such as the National Response Framework that outlines disaster response guiding principles—and successfully hired, trained, and deployed workforces, including the federal screening workforce to assume screening responsibilities at airports nationwide.

However, we also found that more work remained for DHS to address weaknesses in other areas of its operational and implementation efforts. For example, we reported in 2011 that DHS had not yet determined how to implement a biometric exit capability, had taken action to address a small portion of the estimated overstay population in the United States, and needed to strengthen efforts to assess national capabilities for all-hazards preparedness. We further reported that continuing weaknesses in implementing and integrating DHS's management functions continued to affect the department's implementation efforts.

Recognizing DHS's progress in mission implementation and transformation, our 2011 high-risk update focused on the department's continued need to strengthen and integrate its management functions. In our 2013 high-risk update, we found that DHS had made considerable progress in strengthening and integrating its management functions, but that challenges remained and progress was needed to mitigate the risks

[1]GAO, *Department of Homeland Security: Progress Made and Work Remaining in Implementing Homeland Security Missions 10 Years after 9/11*, GAO-11-881 (Washington, D.C.: Sept. 7, 2011). This report addressed DHS's progress in implementing its homeland security missions since it began operations, work remaining, and issues affecting implementation efforts. Drawing from more than 1,000 GAO reports and congressional testimony issued related to DHS programs and operations, and approximately 1,500 recommendations made to strengthen mission and management implementation, this report addressed progress and remaining challenges in such areas as border security and immigration, transportation security, and emergency management, among others.

that management weaknesses posed to DHS's ability to accomplish its mission and use its resources efficiently and effectively. Therefore, in 2013 we narrowed the scope of the high-risk area and changed the name from *Implementing and Transforming the Department of Homeland Security* to *Strengthening Department of Homeland Security Management Functions* to reflect this focus. In our 2015 high-risk update, we found that DHS's top leadership had continued to demonstrate exemplary commitment to and support for addressing the department's management challenges and that DHS had made important progress in strengthening its management functions. However, we also found that DHS continued to face significant management challenges that hindered its ability to achieve its missions and concluded that DHS needed to continue to demonstrate sustainable, measureable progress in addressing key challenges that remained within and across its management functions.

What GAO Found

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

DHS's continued efforts to strengthen and integrate its acquisition, IT, financial, and human capital management functions have resulted in the department meeting three criteria for removal from the High-Risk List (leadership commitment, a corrective action plan, and a framework to monitor progress) and partially meeting the remaining two criteria (capacity and demonstrated, sustained progress). DHS's top leadership,

including the Secretary and Deputy Secretary of Homeland Security, has demonstrated exemplary commitment and support for addressing the department's management challenges. For instance, the department's Deputy Secretary, Under Secretary for Management, and other senior management officials have frequently met with us to discuss the department's plans and progress, which serves as a model for senior-level engagement and helps ensure a common understanding of the remaining work needed to address our high-risk designation. Further, DHS established a framework for monitoring its progress in its *Integrated Strategy for High Risk Management*, in which it has included performance measures to track the implementation of key management initiatives since June 2012. In addition, since our 2015 high-risk update, DHS has strengthened its monitoring efforts for financial system modernization programs that are key to effectively supporting the department's financial management operations, resulting in DHS meeting the monitoring criteria for the first time.

DHS has also issued updated versions of its *Integrated Strategy for High Risk Management*, demonstrating a continued focus on addressing this high-risk designation, and made important progress in identifying and putting in place the people and resources needed to resolve departmental management risks. The integrated strategy includes key management initiatives and related corrective action plans for achieving 30 outcomes, which we identified and DHS agreed are critical to addressing the challenges within the department's management areas, and to integrating those functions across the department. DHS has continued to make important progress across all of its management functions, fully addressing 13 of these outcomes, 9 of which it has sustained as fully implemented for at least 2 years. For example, DHS fully addressed one outcome for the first time by demonstrating improvement in human capital management by linking workforce planning efforts to strategic and program planning efforts.

DHS also sustained full implementation of two other outcomes by obtaining a clean audit opinion on its financial statements for 4 consecutive fiscal years. Further, DHS has mostly addressed an additional eight outcomes, meaning that a small amount of work remains to fully address them. Considerable work remains, however, in several areas for DHS to fully achieve the remaining 17 outcomes and thereby strengthen its management functions. Addressing some of these outcomes, such as those pertaining to improving employee morale and modernizing the department's financial management systems, are significant undertakings that will likely require multiyear efforts. DHS

needs to make additional progress identifying and allocating resources in certain areas to sufficiently demonstrate that it has the capacity (that is, the people and resources) to achieve and sustain all 30 outcomes, as well as demonstrate additional sustainable and measurable progress in addressing key challenges that remain within and across these management functions.

Congress has taken a number of actions to support and oversee DHS's progress in strengthening its management functions, including the following examples:

- The National Defense Authorization Act for Fiscal Year 2017 includes 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 Strengthening DHS Management Functions high-risk area until we submit written notification of the area's removal from the high-risk list to the appropriate congressional committees.[2] Similar provisions were included in the DHS Headquarters Reform and Improvement Act of 2015,[3] the DHS Accountability Act of 2016,[4] and the DHS Reform and Improvement Act.[5]
- House Report 114-215, which accompanied H.R. 3128 (DHS appropriations bill for fiscal year 2016) and later became effective under the Consolidated Appropriations Act, 2016, includes mandates related to DHS's financial management system modernization projects, which relate to three high-risk financial management outcomes.[6] Specifically, the committee directed GAO to assess the risks of DHS utilizing the Department of Interior's Business Center (IBC), whether IBC is capable of expanding its services to additional federal agencies, and a comparison of the services and capabilities of federal and commercial shared service providers. In addition, the

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

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

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

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

[6]H.R. Rep. No. 114-215 (2015); Pub. L. No. 114-113, 129 Stat. 2242 (2015). The explanatory statement accompanying the Consolidated Appropriations Act, 2016, provided that House Report 114-215 carries the same weight as language included in the explanatory statement, unless specifically addressed to the contrary in the bill or the explanatory statement.

committee directed the DHS Office of the Chief Financial Officer to update the lifecycle cost estimate to reflect all contract awards and projected overall costs, including those for every component that plans to migrate to a federal shared service provider.

- The Border Patrol Agent Pay Reform Act of 2014, enacted on December 18, 2014, includes a mandate related to cybersecurity workforce assessments, which relates to one human capital management outcome.[7] Specifically, DHS must identify all cybersecurity workforce positions and identify positions and areas of critical need.

Congress also held a number of oversight hearings related to addressing DHS's management challenges:

- U.S. Senate, Committee on Homeland Security and Governmental Affairs Hearing: *DHS Management and Acquisition Reform*. March 16, 2016.
- U.S. House of Representatives, Committee on Homeland Security, Subcommittee on Oversight and Management Efficiency Hearing: *Assessing DHS's Performance: Watchdog Recommendations to Improve Homeland Security*. February 26, 2015.
- U.S. House of Representatives, Committee on Homeland Security Hearing: *Preventing Waste, Fraud, Abuse and Mismanagement in Homeland Security – A GAO High-Risk List Review*. May 7, 2014.
- U.S. Senate, Committee on Homeland Security and Governmental Affairs Hearing: *The Department of Homeland Security at 10 Years: A Progress Report on Management*. March 21, 2013.

What Remains to Be Done

In the coming years, DHS needs to continue implementing its *Integrated Strategy for High Risk Management* and maintain engagement with us to show measurable, sustainable progress in implementing corrective actions and achieving outcomes. In doing so, it will be important for DHS to

- maintain its current level of top leadership support and sustained commitment to ensure continued progress in executing its corrective actions through completion;

[7]Pub. L. No. 113-277, § 4,128 Stat. 2995, 3008-3010 (2014).

- continue to identify the people and resources necessary to make progress towards achieving outcomes, work to mitigate shortfalls and prioritize initiatives, as needed, and communicate to senior leadership critical resource gaps;
- continue to implement its plan for addressing this high-risk area and periodically provide assessments of its progress to us and Congress;
- closely track and independently validate the effectiveness and sustainability of its corrective actions, and make midcourse adjustments as needed; and
- make continued progress in achieving the 17 outcomes it has not fully addressed and demonstrate that systems, personnel, and policies are in place to ensure that progress can be sustained over time.

We will continue to monitor DHS's efforts in this high-risk area to determine if the outcomes are achieved and sustained over the long term. Further, in order to address the outcomes, DHS must implement our prior recommendations listed below.

- DHS should address employee morale problems through comprehensively examining root causes and establishing clear metrics of success within DHS and its components' action plans.
- DHS should ensure that its Human Resources IT Program (HRIT), of which the Performance and Learning Management System is the primary active project, receives necessary oversight and attention by ensuring the HRIT Executive Steering Committee is consistently involved. DHS should also address HRIT's poor progress and ineffective management by: (1) updating and maintaining a schedule estimate for when DHS plans to implement each of the strategic improvement opportunities; (2) developing a complete life-cycle cost estimate for the implementation of HRIT; (3) documenting and tracking all costs, including components' costs, associated with HRIT; and (4) updating and maintaining the department's human resources system inventory, among other things.
- To more accurately communicate DHS's funding plans for U.S. Coast Guard's major acquisitions programs, DHS should ensure the funding plans presented to Congress are comprehensive and clearly account for all operations and maintenance funding DHS plans to allocate to each of the programs.
- DHS should enhance its leadership's ongoing efforts to improve the affordability of the department's major acquisitions portfolio by requiring components to submit funding certification memorandums

for all major acquisition programs that have not been reviewed at an Acquisition Decision Event; and convening Acquisition Review Boards to discuss affordability and make tradeoffs between cost, schedule, and performance, as necessary. In addition, DHS should ensure that the Fiscal Year 2017 Future Years Homeland Security Program report reflects the results of any tradeoffs stemming from the acquisition affordability reviews; and require components to establish formal, repeatable processes for addressing major acquisition affordability issues.

- DHS's Chief Information Officer should use accurate and reliable information, such as operational assessments of the new architecture and cost and schedule parameters approved by the Under Secretary of Management, to help ensure that assessments prepared by the Office of the Chief Information Officer in support of the department's updates to the federal IT Dashboard more fully reflect the current status of the Transformation Program.
- DHS should continue to work to address its IT mission critical skills gaps, such as those related to its cybersecurity workforce. Further, DHS needs to remediate the material weakness in information security controls reported by its financial statement auditor in fiscal year 2016 by effectively addressing weaknesses in controls related to access, configuration management, and segregation of duties.
- DHS should ensure consistent, effective oversight of DHS's acquisition programs and make the Comprehensive Acquisition Status Report (CASR) more useful by adjusting CASR to enable DHS to hold programs accountable for maintaining their cost, schedule, and performance data. For example, CASR could report an individual rating for each program's cost, schedule, and technical risks, and the level at which the program's life-cycle cost estimate was approved.

Additional Details on What GAO Found

Leadership Commitment

The Secretary and Deputy Secretary of Homeland Security, the DHS Under Secretary for Management, and other senior DHS officials have demonstrated exemplary commitment and top leadership support for addressing the department's management challenges. They have also taken actions to institutionalize this commitment to help ensure the long-term success of the department's efforts. For example, the Secretary of Homeland Security's Unity of Effort initiative has helped to strengthen the

integration of DHS's business operations across the department by, for example, finalizing a management directive in June 2015 that formally establishes multiple senior leader forums for ongoing review of departmental initiatives.[8] The Secretary's Unity of Effort initiative also established enhancements to DHS's budgeting process by creating a new approach to mission-focused, cross-DHS budget development and assessment. Senior DHS officials have also routinely met with us over the past 8 years to discuss the department's plans and progress in addressing this high-risk area. During this time, we provided specific feedback on the department's efforts. According to DHS officials, and as demonstrated through their progress, the department continues to be committed to demonstrating measurable, sustained progress in addressing this high-risk area. For example, during monthly leadership meetings with the Under Secretary for Management, the department's Chief Executive Officers for each management area provide status updates on their respective business function's efforts to achieve progress on outstanding actions that are to be accomplished related to the high-risk area. According to DHS officials, these meetings provide an opportunity to maintain leadership support and accountability for making progress toward resolving management challenges facing the department. It will be important for DHS to maintain its current level of top leadership support and commitment to ensure continued progress in successfully completing its corrective actions.

Capacity

DHS has taken important actions to identify and put in place the people and resources needed to resolve departmental management risks; however, DHS needs to make additional progress identifying and allocating resources in certain areas to sufficiently demonstrate that it has the capacity to achieve and sustain corrective actions and outcomes. In particular, in a September 2010 letter to DHS, we identified and DHS agreed to achieve 31 outcomes that are critical to addressing challenges within the department's management areas and in integrating those functions across the department. In March 2014, we updated these outcomes in collaboration with DHS to reduce overlap and ensure their

[8]DHS, Secretary of Homeland Security, *Strengthening Departmental Unity of Effort,* Memorandum for DHS Leadership (Washington, D.C.: Apr. *22,* 2014). This memorandum committed to, among other things, improving DHS's planning, programming, budgeting, and execution processes through strengthened departmental structures and increased capability. DHS, *Strengthening Departmental Unity of Effort,* Management Directive 071-01 (Washington D.C.: June 30, 2015).

continued relevance and appropriateness. These updates resulted in a reduction from 31 to 30 total outcomes. Toward achieving the outcomes, DHS has issued 10 updated versions of its initial January 2011 *Integrated Strategy for High Risk Management*, most recently in August 2016.

Prior to the January 2016 *Integrated Strategy for High Risk Management*, DHS did not identify sufficient resources in a number of areas that could undermine DHS's efforts to strengthen its management functions. For example, in June 2015, DHS identified that it had resources and personnel needed to implement 8 of the 11 key management initiatives it was undertaking to achieve the 30 outcomes, but did not identify sufficient resources for the 3 remaining initiatives. In addition, our prior work has identified specific capacity gaps that could undermine achievement of management outcomes.

In contrast, DHS's January and August 2016 updated versions of its strategy stated that it had addressed previously identified capacity shortfalls in areas such as IT human capital management and acquisition management, it had sufficient resources to achieve all 30 outcomes, and it had self-assessed the capacity criterion as fully met. In its August 2016 updated version of its strategy, DHS also provided illustrative examples of actions it had taken within and across its management areas to demonstrate the department's ability to resolve potential risks to achieving the 30 outcomes, such as establishing a permanent office for the Unity of Effort Integration within the Office of Policy to oversee Unity of Effort implementation.

However, we found that DHS needs to make additional progress identifying and allocating resources in certain areas.

- **Acquisition management.** With respect to acquisition, DHS's 2016 staffing assessments focused on identifying critical acquisition-related position gaps rather than all major program acquisition-related positions; consequently, some programs were assessed as being fully or almost fully staffed for critical positions despite significant staffing shortfalls in the overall program. This increased focus on critical gaps may limit DHS's insight into the size and nature of acquisition-related staffing shortfalls, making it difficult for DHS to develop a plan or process to address these vacancies. In December 2016, DHS updated its staffing assessment guidance to refocus the assessment process on all major program acquisition-related positions. However, DHS plans to pilot the implementation of this policy update

incrementally during 2017, and the timing of full implementation is not yet known.

- **IT management.** DHS's fiscal year 2015-2018 IT Strategic Plan introduced the department's plan to shift the IT paradigm from acquiring assets to acquiring services and acting as a service broker. The department's August 2016 updated version of its strategy reported that this shift is a mechanism for building capacity to resolve risk. However, while DHS issued a workforce planning contract in July 2016 to help DHS headquarters transition to the skillsets needed to accommodate the service broker model, department officials stated that they have not yet defined what those skill sets are or analyzed the skills gaps resulting from the paradigm shift. Because DHS has yet to comprehensively assess IT human capital gaps within headquarters, it remains unclear whether DHS has the capacity to support this paradigm shift.
- **Financial management.** Additionally, although DHS continues to make progress towards modernizing its financial management systems, critical information needed to determine the resources required for two of three key modernization projects is not available as the projects are not yet to a point where DHS can determine what resources are required. Specifically, the discovery phase of these projects provides essential information for determining the implementation schedule and finalizing cost estimates that are needed prior to approving the projects for implementation; however, this phase is not expected to be completed for DHS's Federal Emergency Management Agency and U.S. Immigration and Customs Enforcement modernization projects until April 2017.[9]

DHS has taken actions to address some of its previous capacity shortcomings and ensure that the department has the people and resources necessary to resolve risk. However, additional progress is needed to ensure that DHS has sufficient capacity not only to resolve risks, but to fully achieve and sustain the 30 outcomes. As a result, we assess DHS having partially met the capacity criterion. DHS needs to continue to comprehensively identify the people and resources necessary to make progress towards achieving all 30 outcomes; work to mitigate shortfalls and prioritize initiatives, as needed; and communicate to senior leadership about critical resource gaps requiring resolution.

[9]The discovery phase includes an in-depth analysis of the requirements and capabilities of the new system, also known as a gap analysis, and is also performed to determine the feasibility of implementing, deploying, and maintaining financial management services for the chosen solution.

Action Plan

DHS previously established a plan for addressing this high-risk area as discussed above, and has continued to take critical, actionable steps towards addressing challenges faced within the department. As with prior iterations, DHS included in its most recent August 2016 version of its *Integrated Strategy for High Risk Management* key management initiatives and related corrective actions for addressing each of the management challenges and related outcomes we identified. For example, the August 2016 updated version of its strategy includes information on actions DHS is taking for an initiative focused on financial systems modernization and an initiative focused on IT human capital management, which support various outcomes. DHS's strategy and approach, if effectively implemented and sustained, provides a path for DHS to be removed from our High-Risk List.

Monitoring

DHS has met the monitor progress criterion as a result of steps the department has taken since our 2015 high-risk update to strengthen its monitoring of key financial system modernization programs. DHS established a framework for monitoring its progress in implementing key management initiatives in the *Integrated Strategy for High Risk Management*. In the June 2012 updated version of its strategy, DHS included, for the first time, performance measures to track its progress in implementing all of its key management initiatives. DHS continued to include performance measures in its August 2016 updated version of its strategy. For example, to monitor progress made towards strengthening the DHS acquisition process by improving the acquisition workforce, DHS management continues to monitor the percent of its nine acquisition certification policies completed—policies related to program management, cost estimating, and contracting among others—and the percent of required acquisition certification training developed.

However, in our 2015 high-risk update, we found that DHS could strengthen its financial management monitoring efforts and thus concluded that the department had partially met the criterion for establishing a framework to monitor progress. In particular, according to DHS officials, as of November 2014, the department was establishing a monitoring program that would include assessing whether the projects modernizing key components of their financial management systems were following industry best practices and meeting users' needs.

Effectively implementing these modernization projects is important because until they are complete, the department's systems will not effectively support financial management operations. Following the 2015 high-risk update, DHS entered into a contract for independent verification and validation services that should help ensure that financial management systems modernization projects meet key requirements. Moving forward, DHS will need to continue to closely track and independently validate the effectiveness and sustainability of its corrective actions, and make midcourse adjustments as needed.

Demonstrated Progress

DHS has continued to make important progress in strengthening its management functions, but needs to demonstrate additional sustainable and measurable progress in addressing key challenges that remain within and across these functions. DHS has either fully or mostly addressed 21 of the 30 outcomes, demonstrating the department's progress in strengthening its management functions, and partially addressed or initiated the remaining 9 outcomes. For example, DHS established the Joint Requirements Council, an acquisition oversight body, through which it has created a process for validating capability and requirements documents, among other things. DHS has also worked to improve the management and oversight of its IT investments by establishing and implementing a tiered governance and portfolio management structure. In addition, DHS obtained a clean audit opinion on its financial statements for 4 consecutive fiscal years—2013, 2014, 2015, and 2016.

However, as we found in our 2015 report, considerable work remains as DHS continues to face significant management challenges in key areas that hinder the department's ability to meet its missions. For this update, we determined that DHS has partially addressed 6 and initiated 3 of the 30 outcomes. For example, while DHS has initiated acquisition program health assessments to demonstrate that major acquisition programs are on track to achieve their cost, schedule, and capability goals, it will take time to demonstrate that these initiatives will improve program performance. In addition, DHS does not have modernized financial management systems, which affects its ability to have ready access to reliable information for informed decision making. Further, it is important that DHS retain and attract the talent required to complete its work—a challenge the department continues to face due to employee morale issues. Addressing these and other management challenges will be a

significant undertaking, but will be critical to mitigate the risks that management weaknesses pose to mission accomplishment.

Achieving sustained progress across the outcomes, in turn, requires leadership commitment, effective corrective action planning, adequate capacity (that is, the people and other resources), and monitoring the effectiveness and sustainability of supporting initiatives. Table 7 summarizes DHS's progress in addressing the 30 key outcomes and is followed by selected examples.

Table 7: GAO Assessment of DHS Progress in Addressing Key Outcomes

Key management function	Fully addressed[a]	Mostly addressed[b]	Partially addressed[c]	Initiated[d]	Total
Acquisition management	2	2	1	NA	**5**
Information technology management	3	3	NA	NA	**6**
Financial management	2	NA	3	3	**8**
Human capital management	3	3	1	NA	**7**
Management integration	3	NA	1	NA	**4**
Total	**13**	**8**	**6**	**3**	**30**

Source: GAO analysis of DHS documents, interviews, and prior GAO reports. | GAO-17-317

[a]"Fully addressed": Outcome is fully addressed.

[b]"Mostly addressed": Progress is significant and a small amount of work remains.

[c]"Partially addressed": Progress is measurable, but significant work remains.

[d]"Initiated": Activities have been initiated to address the outcome, but it is too early to report progress.

- **Acquisition management.** DHS has fully addressed two of the five acquisition management outcomes, mostly addressed two outcomes, and partially addressed the remaining outcome. For example, DHS has validated the required acquisition documentation for all of its major acquisition programs and plans to continue to ensure that all major acquisition programs have approved acquisition program baselines, and to use a pre-Acquisition Review Board checklist to confirm that programs have all required documentation for Acquisition Decision Events. In addition, DHS has taken a number of recent actions to establish and operate the Joint Requirements Council. These actions include (1) establishing a process for validating capability and requirements documents, and (2) piloting a joint

assessment of requirements process that is intended to eventually inform the department's budget decisions.

Further, DHS continues to assess and address whether appropriate numbers of trained acquisition personnel are in place at the department and component levels. Finally, we reported in March 2016 that only 11 of the 25 major DHS acquisition programs we reviewed remained on track to meet their current schedule and cost goals.[10] DHS has initiated acquisition program health assessments to report to senior DHS management the status of major acquisition programs toward achieving cost, schedule, and capability goals; however, it will take time to demonstrate that such initiatives are improving program performance.

- **IT management.** DHS has fully addressed three of the six IT management outcomes and mostly addressed the remaining three. For example, DHS established and implemented a tiered governance and portfolio management structure for overseeing and managing its IT investments, and annually reviews each of its portfolios and the associated investments to determine the most efficient allocation of resources within each of the portfolios. The department also made progress in implementing strategic IT human capital planning goals that support the department's IT Strategic Plan. In this strategic plan, DHS shifted its IT paradigm from acquiring assets to acquiring services and acting as a service broker, or intermediary between the purchaser of a service and seller of that service. However, according to DHS officials, this shift will require a major transition in the skill sets of DHS's IT workforce, as well as hiring, training, and managing staff with those new skill sets.

  While DHS issued a contract in July 2016 for support services to assist DHS headquarters in implementing this transition, department officials stated in September 2016 that they have not yet defined the skill sets needed to implement the paradigm shift or identified what skills gaps exist. Additionally, we found that DHS continues to take steps to enhance its information security program. According to independent auditors of the department's financial statements, DHS had made progress in correcting its prior year IT security weaknesses. However, in November 2016—for the 13th consecutive year—the

[10]GAO, *Homeland Security Acquisitions: DHS Has Strengthened Management, but Execution and Affordability Concerns Endure*, GAO-16-338SP (Washington D.C.: Mar. 31, 2016).

auditors designated deficiencies in IT systems controls as a material weakness for financial reporting purposes.[11]

- **Financial management.** DHS has fully addressed two financial management outcomes, partially addressed three, and initiated three.[12] Most notably, DHS received a clean audit opinion on its financial statements for 4 consecutive years, fiscal years 2013, 2014, 2015 and 2016—fully addressing two outcomes. In addition, in November 2016, DHS's financial statement auditors reported that one of four material weaknesses in its internal controls over financial reporting had been remediated since our last high-risk update. DHS has continued efforts to improve internal controls and expects that it will remediate the remaining three by fiscal year 2017. Until remediated, these weaknesses will continue to hamper DHS's ability to establish effective internal controls over financial reporting and comply with financial management system requirements. DHS also continues to make progress on three multiyear projects to modernize financial management systems for selected DHS components. Specifically, DHS has made progress on its U.S. Coast Guard modernization project, whereas additional efforts need to be completed on its projects to modernize Federal Emergency Management Agency and U.S. Immigration and Customs Enforcement financial management systems before DHS will be in a position to implement modernized solutions for these components and their customers.

  For example, discovery phase activities to determine the feasibility of implementing, deploying, and maintaining the chosen solution are not expected to be completed for these two projects until April 2017. Such information is essential for determining the implementation schedule and finalizing cost estimates that are needed prior to approving the projects for implementation. Further, without sound internal controls and systems, DHS faces long-term challenges in sustaining a clean audit opinion on its financial statements and in obtaining and sustaining a clean opinion on its internal controls over financial

[11]A material weakness is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis. A significant deficiency is a deficiency, or combination of deficiencies, in internal control that is less severe than a material weakness, but is important enough to merit attention by those charged with governance.

[12]As previously discussed, in March 2014, we updated the actions and outcomes in collaboration with DHS to reduce overlap and ensure their continued relevance and appropriateness. These updates resulted in a reduction from nine to eight total financial management actions and outcomes.

reporting, which are needed to ensure that its financial management systems generate reliable, useful, and timely information for day-to-day decision making as a routine business operation.

- **Human capital management.** DHS has fully addressed three human capital management outcomes, mostly addressed three, and partially addressed the remaining one. For example, the Secretary of Homeland Security signed a human capital strategic plan in 2011—which was revised and reissued in 2014—that DHS has since made sustained progress in implementing, thereby fully addressing one outcome.[13] In addition, DHS successfully demonstrated the ability to conduct structured workforce planning for the majority of its priority mission critical occupations at the department in fiscal year 2015, and for all mission critical occupations in fiscal year 2016. To support this planning, DHS issued its Workforce Planning Guide in 2015, which enabled DHS components to apply a consistent and departmentally-approved methodology, including the use of standardized tools and templates.[14] DHS also published and implemented a department-wide Employee Engagement Action Plan, which DHS's components used to develop tailored action plans for their own employee engagement and outreach.

  However, DHS has considerable work ahead to improve employee morale. For example, the Office of Personnel Management's Federal Employee Viewpoint Survey data showed that DHS's scores generally declined in four areas (leadership and knowledge management, results-oriented performance culture, talent management, and job satisfaction) from 2008 through 2015. DHS has developed plans for addressing its employee satisfaction problems and improved scores in all four areas in 2016, but as we previously recommended, in September 2012, DHS needs to continue to improve its root-cause analysis efforts related to these plans.[15] DHS also needs to continue strengthening its learning management capabilities. Specifically, in February 2016, we reported that DHS had initiated the Human Resources Information Technology (HRIT) investment in 2003 to address issues presented by its human resource environment.

[13]DHS, *Human Capital Strategic Plan Fiscal Years 2015-2019* (Washington, D.C.: October 2014).

[14]DHS, Office of the Chief Human Capital Officer, *DHS Workforce Planning Guide* (Washington, D.C.: July 2015).

[15]GAO, *Department of Homeland Security: Taking Further Action to Better Determine Causes of Morale Problems Would Assist in Targeting Action Plans*, GAO-12-940 (Washington D.C.: Sept. 28, 2012).

With respect to learning management, we found limitations resulting from nine disparate learning management systems that did not exchange information. DHS established the Performance and Learning Management System (PALMS) to consolidate DHS's nine existing systems into one system, and enable comprehensive training reporting and analysis across the department, among other things. However, in our February 2016 report, we found that selected PALMS capabilities had been deployed to DHS headquarters and two components, but full implementation at four components was not planned, leaving uncertainty about whether PALMS would be used enterprise-wide to accomplish these goals. As of September 2016, DHS has deployed selected PALMS capabilities to one additional component and has plans to implement it at two additional components in the first half of fiscal year 2017.

- **Management integration.** DHS has sustained its progress in fully addressing three of the four management integration outcomes, and partially addressed the remaining outcome. For example, in January 2011, DHS issued a comprehensive action plan to guide its management integration efforts—the Integrated Strategy. Since then, DHS has generally improved the strategy with each updated version of its strategy based on feedback we provided. DHS has also shown important progress in addressing the last and most significant management integration outcome—to implement outcomes in each management area to develop consistent or consolidated processes and systems within and across its management functional areas. For example, the Secretary's April 2014 Strengthening Departmental Unity of Effort memorandum highlighted a number of initiatives designed to allow the department to operate in a more integrated fashion.

  Further, in support of this effort, in August 2015, the Under Secretary for Management identified four integrated priority areas to bring focus to strengthening integration among the department's management functions. According to DHS's August 2016 updated version of its strategy, these priorities—which include, for example, strengthening resource allocation and reporting reliability and developing and deploying secure technology solutions—each include detailed goals, objectives, and measurable action plans that are monitored at monthly leadership meetings led by senior DHS officials, including the Under Secretary for Management. Accomplishments DHS officials attribute to the Unity of Effort initiative and integrated priorities initiatives include the following, among others:

- DHS's Office of Program Accountability and Risk Management developed and implemented a policy directive to monitor and track critical staffing gaps for major acquisition programs to ensure that such gaps are identified and remediated in a timely manner.[16]
- DHS Science and Technology Directorate established Integrated Product Teams to better link the department's research and development investments with the department's operational needs.
- DHS strengthened its strategy, planning, programming, budgeting, execution, and acquisition processes by improving existing structures and creating new ones where needed to build additional organizational capability. DHS has institutionalized these reforms by issuing a range of departmental management directives and instructions.

However, given that these main management integration initiatives are in the early stages of implementation and contingent upon DHS sustaining implementation plans and efforts over a period of years, it is too early to assess their effects. To achieve this outcome, DHS needs to continue to demonstrate sustainable progress integrating its management functions within and across the department and its components, as well as fully address the other 17 outcomes it has not yet achieved.

Benefits Achieved By Implementing Our Recommendations

- In 2016, we recommended, among other things, that DHS (1) update the HRIT executive steering committee charter to establish the frequency with which HRIT executive steering committee meetings are to be held, (2) establish time frames for re-evaluating the strategic improvement opportunities and associated projects in the Human Capital Segment Architecture Blueprint and determining how to move forward with HRIT, and (3) evaluate the strategic improvement opportunities and projects within the Human Capital Segment Architecture Blueprint to determine whether they and the goals of the blueprint are still valid and reflect DHS's HRIT priorities going forward, and update the blueprint accordingly. We reported that HRIT's limited

[16]DHS, *Major Acquisition Program Staffing Management*, DHS Policy Directive 102-05 (Washington, D.C.: June 30, 2016).

progress was due in part to lack of involvement of its executive steering committee and, as a result, key governance activities, such as approval of HRIT's operational plan, were not completed. We concluded that until DHS takes actions to reevaluate and manage this neglected investment, it was unknown when its human capital weaknesses would be addressed. In response, in 2016, DHS addressed these three recommendations. As a result, DHS should have better assurance that the HRIT executive steering committee will meet regularly and carry out its responsibility to provide oversight and guidance to the HRIT investment. Further, DHS is better positioned to update the blueprint and address inefficiencies in its human resources environment, make informed resource decisions on the implementation of the strategic improvement opportunities, and address inefficiencies in its human resources environment.

- In 2015, we recommended that DHS re-baseline cost, schedule, and performance expectations for the remainder of the U.S. Citizenship and Immigration Services Transformation Program. We reported that the Transformation Program had an increased cost of $1 billion and delay of over 4 years from its initial July 2011 baseline, mostly due to changes in its acquisition strategy to address various technical challenges. These changes significantly delayed the program's planned schedule, which in turn had adverse effects on when the program expects to achieve cost savings, operational efficiencies, and other benefits. In response, in 2015, DHS addressed this recommendation, and the re-baseline helps ensure that progress made by the program can be monitored against established and approved parameters.
- In 2015 and 2016, DHS addressed four recommendations to help ensure consistent, effective oversight of DHS's acquisition programs. DHS (1) directed its Office of Program Accountability and Risk Management (PARM) to develop written guidance that defines roles and responsibilities of its component leads; (2) directed the Under Secretary for Management (USM) to develop written guidance to clarify roles and responsibilities of PARM and the Office of the Chief Information Officer Enterprise Business Management Office for conducting oversight of major acquisition programs; (3) directed the USM to produce operations and maintenance cost estimates for programs in sustainment and establish responsibility for tracking sustainment programs' adherence to those estimates; and (4) directed the USM to determine mechanisms to hold programs accountable for entering data in the Next Generation Periodic Reporting System consistently and accurately, and to hold Component Acquisition Executives accountable for validating the information and evaluate the

root causes of why programs are not using the Next Generation Periodic Reporting System as intended. By PARM issuing a handbook that provides oversight roles and responsibilities and other guidance to PARM component leads, and by the USM and Acting Deputy USM issuing multiple memorandums regarding the clarification of acquisition oversight roles and responsibilities, the verification and certification of the data in designated fields, the verification and certification of the data on a biannual basis, and the requirement of root cause analyses, DHS is helping ensure consistent and effective oversight of its acquisition programs.

- In 2015, we recommended that DHS should ensure the Director of Operational Test and Evaluation explicitly address all of the relevant key performance parameters in each letter of assessment appraising operational test results of DHS's major acquisitions programs. As a result, in 2015, DHS finalized an internal office procedure that established that each letter of assessment should provide detailed analysis indicating whether or not the key performance parameters were met.
- In 2014, we recommended that DHS clearly identify Leader Development Program goals and ensure program performance measures include key attributes, such as linkage, clarity, and measurable targets. As a result, in December 2014, Leader Development Program Office officials provided us with updated documentation on the program's assessment approach. This documentation established 10 program goals. It also explained how the program's performance measures link to the 10 program goals and to department-wide goals. Further, the documentation established targets for each performance measure and provided clarification for ambiguous measures. These enhancements to the Leader Development Program assessment approach should help produce actionable information for the program's management to use in identifying the need for, and making, program improvements.
- In 2013, we recommended that DHS should direct the Office of the Chief Human Capital Officer (OCHCO) to require all components to provide recruiting cost information in a consistent manner to allow better tracking of overall recruiting costs, and use this information to assess the extent to which recruiting costs are being reduced by components as a result of increased coordination and leveraging resources as called for in the Coordinated Recruiting and Outreach Strategy. In June 2015, OCHCO provided us with examples of recruiting cost information that it has begun tracking in response to this recommendation. The data provided demonstrate that OCHCO

has begun to better track component-level recruiting expenditures in a way that illustrates coordination among components, and could be used to track reduction in costs stemming from this coordination.

- In 2015, in response to one of our recommendations, DHS developed a financial systems modernization transition plan that included the tasks, milestones, and time frames for implementing new systems, and establishing the optimal sequencing of activities. If effectively implemented, the transition plan will help DHS increase its ability to effectively manage its financial management system modernization efforts. Also, in 2015, DHS developed a financial systems modernization transition plan and an updated architecture roadmap that collectively describe a target state architecture for DHS financial management segment in business terms (e.g., business functions and business processes) and technical terms (e.g., account classification standards data model, shared services, and federated solution approach). These DHS actions have helped improve DHS's ability to ensure the effectiveness of financial management system investment decisions.

GAO Contact

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Related GAO Products

Homeland Security Acquisitions: Joint Requirements Council's Initial Approach Is Generally Sound and It Is Developing a Process to Inform Investment Priorities. GAO-17-171. Washington, D.C.: October 24, 2016.

Homeland Security Acquisitions: DHS Has Strengthened Management, but Execution and Affordability Concerns Endure. GAO-16-338SP. Washington, D.C.: March 31, 2016.

Department of Homeland Security: Progress Made, but Work Remains in Strengthening Acquisition and Other Management Functions. GAO-16-507T. Washington, D.C.: March 16, 2016.

Homeland Security: Oversight of Neglected Human Resources Information Technology Investment Is Needed. GAO-16-253. Washington, D.C.: February 11, 2016.

Immigration Benefits System: Better Informed Decision Making Needed on Transformation Program. GAO-15-415. Washington, D.C.: May 18, 2015.

Homeland Security Acquisitions: DHS Should Better Define Oversight Roles and Improve Program Reporting to Congress. GAO-15-292. Washington, D.C.: March 12, 2015.

Department of Homeland Security: Progress Made, but More Work Remains in Strengthening Management Functions. GAO-15-388T. Washington, D.C.: February 26, 2015.

DHS Training: Improved Documentation, Resource Tracking, and Performance Measurement Could Strengthen Efforts. GAO-14-688. Washington, D.C.: September 10, 2014.

DHS Financial Management: Continued Effort Needed to Address Internal Control and System Challenges. GAO-14-106T. Washington, D.C.: November 15, 2013.

DHS Financial Management: Additional Efforts Needed to Resolve Deficiencies in Internal Controls and Financial Management Systems. GAO-13-561. Washington, D.C.: September 30, 2013.

Ensuring the Effective Protection of Technologies Critical to U.S. National Security Interests

Why Area Is High Risk

Technological superiority is critical to U.S. military strategy. Thus, the Department of Defense (DOD) spends billions of dollars each year to develop and acquire sophisticated technologies to provide an advantage for the warfighter during combat or other missions. Many of these technologies are also sold or transferred to foreign partners to promote U.S. economic, foreign policy, and national security interests. These technologies can also be acquired through foreign investment in the U.S. companies that develop or manufacture them. In addition, they are targets for unauthorized transfer, such as theft, espionage, reverse engineering, and illegal export.

To identify and protect technologies critical to U.S. interests, the U.S. government has a portfolio of programs. These include export controls—those developed to regulate exports and ensure that items and information are transferred in a manner consistent with U.S. interests—as well as a number of non-export control programs, including the Foreign Military Sales (FMS) program, anti-tamper measures, and the National Industrial Security Program, which oversees government contractors handling classified information, including that associated with critical technologies. These programs and activities are administered by multiple federal agencies with various interests, including DOD and the Departments of Commerce, Homeland Security, Justice, State, and the Treasury. We designated this area as high risk in 2007 because these programs, established decades ago, were ill-equipped to address the evolving challenges of balancing national security concerns and economic interests. While these agencies are making progress in addressing challenges identified by our work, we believe that additional leadership and coordination of programs and activities in the non-export

control programs, among other things, is needed to identify strategic reforms that will help to advance U.S. interests.

What GAO Found

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

Since this area was added to the High-Risk List in 2007, our body of work in this area has identified progress in the programs designed to protect technologies critical to U.S. national security interests, but government-wide challenges remain, including the need to adopt a more consistent leadership approach, improve coordination among programs, address weaknesses in individual programs, and implement export control reform.

Hence, we continue to consider each of our high-risk criteria in this area to be partially met:

- Leadership commitment to addressing challenges has been evident in some areas of the critical technologies portfolio, particularly with respect to the Export Control Reform initiative. However, as we reported in our 2015 update, greater collaboration among the critical technologies programs not directly related to export controls—including the FMS program, the anti-tamper program, and the National Industrial Security Program—could ensure that lead and stakeholder agencies take a more consistent approach to meeting program goals.

- The capacity for addressing challenges and implementing reforms has improved for some programs. However, many efforts remain limited to individual programs or activities within the overall program portfolio, and there are areas where broader coordination could be beneficial, such as determining an appropriate technical reference to inform key decisions relating to critical technologies.
- Action plans to guide improvements are in place for some programs; however, additional steps have yet to be taken to develop and implement action plans that will address ongoing challenges, such as administering the anti-tamper program.
- Monitoring of efforts to meet key challenges also has improved at some programs. DOD and State have implemented some, but not all, of our past recommendations on developing performance measures and monitoring program outcomes.

What Remains to Be Done

The need for action remains both at the individual program level and the portfolio level. We have made a number of recommendations to agencies aimed at improving coordination among the programs that are intended to protect technologies critical to U.S. national security. We believe that implementing these recommendations could result in significant improvements. Our body of work shows that challenges remain.

Leadership Commitment

To address existing challenges, we have previously reported that the executive branch and Congress should consider reevaluating the wider portfolio of programs protecting critical technologies, including assessing the prospects for achieving collaboration across separate but related programs designed to protect critical technologies. Executive branch leadership has been committed to reforming the area of export controls, an important step forward. But leadership commitment is less evident in the critical technologies programs that fall outside the scope of export control reform.

Capacity

Individual agencies need to continue to implement our recommendations to address weaknesses in their respective programs. Doing so could increase these programs' capacity for implementing reforms. For

example, the export control agencies should work to develop standard operating procedures for the Export Enforcement Coordination Center—a primary forum within the federal government to coordinate export enforcement efforts and identify and resolve conflicts—to facilitate data sharing.

Action Plan

Developing a concrete action plan for achieving collaboration across separate but related programs designed to protect critical technologies remains important. Executive branch leadership has developed a thorough action plan for export control reform. But formal and integrated planning is less evident in the critical technologies programs that fall outside the scope of export control reform.

Monitoring

Individual agencies need to continue to implement our recommendations to address weaknesses in their respective programs. Doing so could increase these programs' ability to monitor progress. For example, DOD should take additional actions to enhance its ability to provide security assistance through, for example, its FMS program by establishing performance measures for all phases of the security assistance process.

Demonstrated Progress

Across the critical technologies portfolio, steps have been taken demonstrating progress, but more remains to be done. For example, efforts to develop procedures for coordination between the export enforcement community and the intelligence community remain incomplete. Similarly, we recommended in January 2013 that the Secretary of Defense should determine the best approach to meeting users' needs for a technical reference, whether it be the U.S. Munitions List or the Industrial Base Technologies List, other alternatives being used, or some combination thereof, and ensure that resources are coordinated and efficiently devoted to sustain the approach chosen.[1] Since our recommendation, DOD officials said the department has moved toward using the U.S. Munitions List. However, DOD has not changed its

[1]GAO, *Protecting Defense Technologies: DOD Assessment Needed to Determine Requirement for Critical Technologies List*, GAO-13-157 (Washington, D.C.: Jan. 23, 2013).

policy requiring use of the Militarily Critical Technologies List (MCTL) as it has not yet received relief from that statutory requirement.

At the portfolio level, implementing export control reforms demonstrates leadership commitment, but the agencies involved in export controls must continue to implement reforms to achieve the goals set to protect U.S. interests. For non-export control reform, increased collaboration between DOD's offices responsible for administering the FMS program and approving exports represents an important step forward in coordinating the activities of selected programs. However, leadership still must decide, among other things, how to address protection of critical technologies at a more strategic level. In particular, in February 2015 we recommended that, to ensure a consistent and more collaborative approach to protecting critical technologies, the Secretaries of Commerce, Defense, Homeland Security, State, and the Treasury as well as the Attorney General of the United States—who have lead and stakeholder responsibilities for the programs within the critical technologies portfolio—should take steps to promote and strengthen collaboration mechanisms among their respective programs while they implement and assess ongoing initiatives.[2] These steps need not be onerous; for example, they could include conducting an annual meeting to discuss their programs, including the technologies they are protecting, their programs' intent, and any new developments or changes planned for their programs, as well as defining consistent critical technologies terminology and sharing important updates.

Congressional Actions Needed

Export control reform is being implemented in three phases. Phases I and II reconcile various definitions, regulations, and policies for export controls. As of August 2015, Phase I was finished. Phase II is nearing completion. This is all building toward Phase III, which will result in implementation of major changes supported by these reconciliations by consolidating export control efforts in four reform areas: creating a single, consolidated control list; designating a single licensing agency; designating a primary export enforcement coordination agency; and establishing a unified information technology system. We reported in February 2015 that significant collaboration by the participating agencies

[2]GAO, *Critical Technologies: Agency Initiatives Address Some Weaknesses, but Additional Interagency Collaboration Is Needed*, GAO-15-288 (Washington, D.C.: Feb. 10, 2015).

is essential to the Phase III consolidation efforts.[3] In that same report, we noted that in order for full implementation of this third and final phase to occur, congressional action is needed to designate a single licensing agency and a primary export enforcement coordination agency. For example, since there are currently separate statutory bases for State and Commerce to review and issue export licenses, legislation will be required to consolidate the current system into a single licensing agency.

Additional Details on What GAO Found

Ensuring Protection of Critical Technologies - Export Controls

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

Some of the issues identified through past reports on export controls include poor interagency coordination, inefficiencies in the license application process, and a lack of systematic assessments.

[3]GAO-15-288.

Leadership Commitment

This criterion has been met. The Obama administration directed an interagency review of the U.S. export control system that resulted in the 2010 establishment of an Export Control Reform initiative, which has continued to demonstrate strong leadership commitment, both from that administration and from leaders at the key federal agencies. This initiative is under way and actions toward the four key goals of reform—creation of a single, consolidated control list, a single licensing agency, a primary export enforcement coordination agency, and a unified information technology system—have been implemented using a phased approach, which we have concluded has the potential to address weaknesses in the U.S. export control system.

Capacity

This criterion has been partially met. As part of export control reform, DOD's USXPORTS system has undergone several enhancements to allow it to have the capacity to be the single export licensing database for the key agencies responsible for export controls. DOD has worked with State and the Department of Commerce (Commerce) to adopt its USXPORTS system to improve communication and coordination in the export licensing process. Past problems in implementing system requirements needed by Commerce have been resolved, and as of 2016, the three key export control agencies are using this single system, and other agencies, such as Treasury, are working toward joining this system.

However, other efforts under this criterion have yet to be completed. Fifteen federal agencies have come together through the establishment of the Export Enforcement Coordination Center (the Center), which, according to statistics the Center Director provided to us, has heightened awareness by exchanging investigation-related information. The Center had made good progress in addressing our February 2015 findings that export enforcement agencies had poor interagency coordination, but remaining efforts have stalled.[4] For example, the Center has not yet finalized procedures for coordination between the investigative export control enforcement and intelligence communities. Center officials cited understaffing of interagency personnel as a key barrier, and, in August 2016, Commerce assigned new staff to the Center to assist in this process.

[4]GAO-15-288.

Action Plan

This criterion has been met. The export control reform efforts lay out a clear plan of action—consisting of a three-phase framework of agency actions to implement reforms to export control lists, licensing, enforcement, and information technology—which has the potential to improve the efficiency and effectiveness of the export control process.

Monitoring

This criterion has been partially met. We made four recommendations in March 2012 that departments with responsibilities for export control enforcement take steps to more effectively monitor resources spent on export control enforcement activities and develop and implement metrics for monitoring their effectiveness.[5] As of 2016, one of these recommendations has been implemented by Homeland Security, but not Justice; a second has been implemented by both Homeland Security and Commerce; a third has not been implemented by Homeland Security; and a fourth has been implemented by both Commerce and State.

Demonstrated Progress

This criterion has been partially met. Some important steps for export control reform have been completed. For example, the export control licensing agencies have reviewed 17 of the 21 U.S. Munitions List categories to determine whether the items in those categories should remain under State control or move to Commerce control. The goal is to move certain less sensitive items from State's jurisdiction to Commerce's, while leaving high-risk and high-priority items on State's list. However, other key steps, such as implementation of the Center's procedures for coordination with the intelligence communities, remain incomplete.

[5]GAO, *Export Controls: Proposed Reforms Create Opportunities to Address Enforcement Challenges*, GAO-12-246 (Washington, D.C.: Mar. 27, 2012).

Ensuring Protection of Critical Technologies - Non-Export Controls

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

Leadership Commitment

This criterion has been partially met. For critical technology protection programs not related to export controls—such as the FMS program, the anti-tamper program, and the National Industrial Security Program—DOD has demonstrated increased leadership commitment at the program level; however, as we reported in our 2015 update, the overall portfolio of programs remains fragmented. For example, DOD leadership has placed an increased emphasis on weapon system exportability—ensuring technology protections are assessed and designed into a system before its potential foreign sale—by issuing policy in 2015 clarifying roles and authorities for its anti-tamper program. This policy formalizes authority of the Under Secretary of Defense for Acquisition, Technology, and Logistics as DOD's anti-tamper lead and the Secretary of the Air Force as the Executive Agent for Anti-Tamper, and articulates their oversight roles for ensuring consistent protection of critical technologies across weapon systems and their respective export variants.

The Defense Security Service, which is responsible for administering the National Industrial Security Program and overseeing the protection of

classified information at contractor facilities, has also made leadership progress in its technology protection role by beginning implementation of an enterprise-wide risk management approach that it expects to allow more effective oversight of technology and classified information. In 2016, agency officials reported that this approach has improved the overall oversight of all contractors by increasing visibility of security management issues across the agency's individual directorates.

Capacity

This criterion has been partially met. In our 2015 update, we reported that DOD had initiated a plan and instituted the capacity for oversight and collaboration on those programs related to security cooperation and disclosure, and, while DOD has continued to expand these capacities, they remain fragmented across the portfolio of programs. For example, based on direction in the National Defense Authorization Act for Fiscal Year 2011, DOD created a Defense Exportability Features Pilot Program to reduce program costs and facilitate export sales for U.S. and foreign customers while balancing program protection needs.[6] Since it was created, this pilot program has funded a limited number of designated systems to conduct initial feasibility studies, follow-on studies, and design efforts relating to protection of critical information on systems that may be candidates for export. Our ongoing work suggests that the pilot program has achieved some significant initial successes in helping assure greater value and effectiveness in preparing weapon programs for export. DOD officials also reported improved collaboration between agencies involved in the protection of critical technologies. Specifically, DOD officials responsible for administering FMS and export license requests, respectively, highlighted areas of increased collaboration, including joint briefings to Congress and temporary staff details across their organizations.

Action Plan

This criterion has been partially met. In our 2015 update, we reported that DOD had established plans for oversight and collaboration on those programs related to security cooperation and disclosure. However, significant work remains to be done in this area. Specifically, DOD officials said they do not have a strategic plan for administering the anti-

[6]Pub. L. No. 111-383, § 243. The pilot program was initially set to expire on October 1, 2015. The National Defense Authorization Act for Fiscal Year 2014 extended the pilot program through the end of fiscal year 2020. Pub. L. No. 113-66, § 264.

tamper program, and officials also noted that, although technology protection is a strategic priority within the department, it was not included in a recent presidential transition strategy in terms of performance and tracking measures.

Monitoring

This criterion has been partially met. While DOD has made some progress in establishing data-driven performance measures and tracking them against organizational goals, additional work is needed in some areas relating to the transfer of U.S. military equipment to foreign governments. For example, in our last update we noted that DOD has not implemented our recommendations to improve monitoring of the security assistance process for FMS and other security cooperation programs in which military equipment is provided directly to foreign governments. Since then, one recommendation—from November 2012—that DOD establish performance measures to assess the timeliness of the security assistance case closure process for FMS and related programs, has been implemented, but another—from the same report—calling for DOD to establish a performance measure to assess timeliness for the acquisition phase of the security assistance process remains unaddressed.[7] Additionally, DOD officials responsible for administering the Defense Exportability Features Pilot Program said they have not yet developed meaningful metrics relating to aspects of the program International Cooperation officials would like to measure, such as cost savings and the defense industry's ability to handle increased production to accommodate both U.S. and export items.

Demonstrated Progress

This criterion has been partially met. While DOD's actions demonstrate increased leadership commitment and capacity for ensuring efficient protection of critical technologies, these and other DOD efforts remain largely limited in scope, with a focus on individual program areas dedicated to the identification and protection of critical technologies, such as anti-tamper, the National Industrial Security Program, or FMS. Moreover, we reported in 2015 that this portfolio of critical technologies programs is fragmented and poorly coordinated across the government, and there are still some areas for which coordination across the critical

[7]GAO, *Security Assistance: DOD's Ongoing Reforms Address Some Challenges, but Additional Information Is Needed to Further Enhance Program Management*, GAO-13-84 (Washington, D.C.: Nov. 16, 2012).

technologies portfolio needs improvement and overall direction. For example, we have previously reported that DOD's MCTL, originally developed in response to the Export Administration Act of 1979 in order to inform export decisions, is no longer being updated or used by DOD officials who provide input on the criticality of technologies as part of export license determinations and reviews of foreign acquisition of U.S. companies.

We recommended in January 2013 that DOD determine the best approach for meeting users' requirements for a technical reference and DOD officials noted that a memorandum is pending final signature that would cancel DOD's policy requiring use of the MCTL.[8] In the meantime, DOD officials we spoke with in August 2016 highlighted an ongoing effort to update the U.S. Munitions List, which is now more widely used in security cooperation efforts. Additionally, the Defense Security Service maintains a separate list—the Industrial Base Technology List—which is used by many DOD entities to characterize threats to information and technology and to categorize technology acquisitions.

Benefits Achieved by Implementing Our Recommendations

- In March 2012, we issued a report identifying delays in the license determination process, by which agencies confirm whether an item for export is controlled and requires a license.[9] We recommended that Commerce establish timeliness goals for responding to license determination requests. According to Commerce, in April 2014, Commerce's Bureau of Industry and Security began implementing the license determination module of the Commerce USXPORTS Export Support System. This system has enabled them to reduce their average processing time for license determinations to around 14 days, well below Commerce's internal requirement for processing license determinations of 35 days.
- In February 2014, we found that the absence of State Department procedures for identifying defense articles eroded confidence that State officials were applying recommended end-use monitoring and

[8]GAO-13-157.

[9]GAO-12-246.

security safeguards on defense equipment.[10] We recommended that the Secretary of State direct State bureaus transferring equipment to foreign security forces under security-related assistance programs to establish formal written procedures to consult with the Directorate of Defense Trade Controls to determine if there are additional safeguards recommended for the transfer of the defense articles. According to State officials, in October 2015, the Department of State's Bureau of International Narcotics Control and Law Enforcement Affairs issued new standard operating procedures directing end-use monitoring officials to ensure that all U.S. government personnel utilize an end-use monitoring defense article checklist when conducting inspections.

GAO Contact

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Related GAO Products

Critical Technologies: Agency Initiatives Address Some Weaknesses, but Additional Interagency Collaboration Is Needed. GAO-15-288. Washington, D.C.: February 10, 2015.

Export Controls: NASA Management Action and Improved Oversight Needed to Reduce the Risk of Unauthorized Access to Its Technologies. GAO-14-315. Washington, D.C.: April 15, 2014.

Countering Overseas Threats: DOD and State Need to Address Gaps in Monitoring of Security Equipment Transferred to Lebanon. GAO-14-161. Washington, D.C.: February 26, 2014.

Protecting Defense Technologies: DOD Assessment Needed to Determine Requirement for Critical Technologies List. GAO-13-157. Washington, D.C.: January 23, 2013.

[10]GAO, *Countering Overseas Threats: DOD and State Need to Address Gaps in Monitoring of Security Equipment Transferred to Lebanon*, GAO-14-161 (Washington, D.C.: Feb. 26, 2014).

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Nonproliferation: Agencies Could Improve Information Sharing and End-Use Monitoring on Unmanned Aerial Vehicle Exports. GAO-12-536. Washington, D.C.: July 30, 2012.

Export Controls: U.S. Agencies Need to Assess Control List Reform's Impact on Compliance Activities. GAO-12-613. Washington, D.C.: April 23, 2012.

Export Controls: Proposed Reforms Create Opportunities to Address Enforcement Challenges. GAO-12-246. Washington, D.C.: March 27, 2012.

Export Controls: Agency Actions and Proposed Reform Initiatives May Address Previously Identified Weaknesses, but Challenges Remain. GAO-11-135R. Washington, D.C.: November 16, 2010.

Improving Federal Oversight of Food Safety

Why Area Is High Risk

The Department of Health and Human Services (HHS), the U.S. Department of Agriculture (USDA), and the Office of Management and Budget (OMB) have taken some positive steps since the 2015 high-risk update to address fragmentation in the federal food safety oversight system. For example, HHS and USDA have continued and expanded collaboration on specific food safety issues, and HHS has updated its strategic plan to address interagency coordination on food safety. However, additional steps are needed to address the system's fragmentation and remove this issue from the High-Risk List.

For more than four decades, we have reported on the fragmented federal food safety oversight system, which has caused inconsistent oversight, ineffective coordination, and inefficient use of resources. We added federal food safety oversight to the High-Risk List in 2007 because of risks to the economy, to public health, and to safety.[1] A 2011 estimate by the Centers for Disease Control and Prevention (CDC)—its most recent estimate—indicates that, as a result of foodborne illness, roughly 1 in 6 Americans (48 million people) gets sick each year, 128,000 are hospitalized, and 3,000 die. CDC data also show that the number of reported multistate foodborne illness outbreaks is increasing. This is notable because although multistate outbreaks make up a small proportion of total outbreaks, they affect greater numbers of people. For example, according to CDC data, 3 percent of reported outbreaks from 2010 to 2014 were multistate, but these outbreaks were associated with 11 percent of illnesses, 34 percent of hospitalizations, and 56 percent of deaths. CDC cites several potential contributors to the increase in reported multistate outbreaks, including greater centralization of food processing practices, wider food distribution, and improved detection and investigation methods.

[1]GAO, *High-Risk Series: An Update*, GAO-07-310 (Washington, D.C.: January 2007).

Most who get sick from a foodborne illness will recover without any lasting effects; however, some individuals may suffer long-term health effects, such as kidney failure, chronic arthritis, or nerve damage. For example, according to CDC data, each year in the United States an estimated 1.3 million people are affected by an infection with the foodborne pathogen Campylobacter. Of these, approximately 1 in 1,000 develop Guillain-Barré syndrome, a disorder in which a person's immune system attacks the body's own nerves. Researchers have also linked exposure to *E. coli*, *Salmonella*, and other foodborne pathogens to a long-term risk of developing Crohn's disease, a chronic inflammatory bowel disease. According to a May 2015 estimate from USDA's Economic Research Service, the most common 15 foodborne pathogens together impose an economic burden related to foodborne illnesses, hospitalizations, and deaths in the United States of over $15.5 billion annually.[2] That same year, researchers at HHS's Food and Drug Administration (FDA) estimated health costs associated with foodborne illness at about $36 billion annually.[3]

In addition to the human health toll, foodborne illness outbreaks can impose high costs to industry from food recalls. An October 2011 study published by the Grocery Manufacturers Association (GMA), in partnership with Covington & Burling LLP and Ernst & Young, estimated the cost of food recalls. The study surveyed 36 GMA member companies and found that more than half had been affected by a product recall in the prior 5 years. For companies that had faced a recall in the past 5 years, 48 percent estimated the financial impact to be less than $9 million; 29 percent, from $10 million to $29 million; and 23 percent, $30 million or more. Based on the survey results, the four largest costs that companies face as a result of a recall are business interruption or lost profits; recall execution costs, such as destroying and replacing recalled products; liability risk; and company or brand reputation damage.

[2]Economic burden measures the impact of disease on the welfare of all individuals in a society—also referred to as welfare loss. Economists measure the economic burden of a disease as the sum of the willingness to pay by all individuals in society to reduce its incidence or likelihood.

[3]Differences between the estimates may be explained by the number of identified pathogens included, whether or not unidentified causes of foodborne illness are included, and analytical methods used for developing the estimate.

As we reported in December 2014, three major trends create food safety challenges.[4] First, a substantial and increasing portion of the U.S. food supply is imported, which stretches the federal government's ability to ensure the safety of these foods. Second, consumers are eating more raw and minimally processed foods, which in general are more susceptible to foodborne pathogens. Third, segments of the population that are particularly susceptible to foodborne illnesses, such as older adults and immune-compromised individuals, are growing.

The safety and quality of the U.S. food supply, both domestic and imported, are governed by a highly complex system stemming from at least 30 federal laws that are collectively administered by 16 federal agencies. The federal agencies with primary responsibility for food safety oversight are USDA's Food Safety and Inspection Service (FSIS) and FDA. FSIS is responsible for the safety of meat, poultry, processed egg products, and catfish.[5] FDA is responsible for virtually all other food. As we reported in May 2016, the federal food safety oversight system is supplemented by states, localities, tribes, and territories, which may have their own laws and agencies to address the safety and quality of food.[6]

[4]GAO, *Federal Food Safety Oversight: Additional Actions Needed to Improve Planning and Collaboration*, GAO-15-180 (Washington, D.C.: Dec. 18, 2014).

[5]As a result of 2008 Farm Bill provisions amending the Federal Meat Inspection Act, regulatory responsibility for catfish inspection fell to FSIS in December 2015, when FSIS issued final regulations for a mandatory catfish examination and inspection program. The program regulations became effective in March 2016. 80 Fed. Reg. 75,590 (Dec. 2, 2015).

[6]GAO, *Food Safety: FDA Coordinating with Stakeholders on New Rules but Challenges Remain and Greater Tribal Consultation Needed*, GAO-16-425 (Washington, D.C.: May 19, 2016).

What GAO Found

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

HHS, USDA, and OMB have taken some positive steps since the 2015 high-risk update to address fragmentation in the federal food safety oversight system—including in relation to crosscutting requirements for individual strategic and performance planning documents and collaboration on specific food safety issues—but they have not addressed our March 2011 recommendation for a government-wide plan and Congress has not acted on our December 2014 matters for it to consider for government-wide planning and leadership. We continue to believe that these actions are important to federal food safety oversight efforts. A framework for addressing these actions could be provided through development and implementation of a national strategy for food safety oversight. Food safety and government performance experts who participated in a 2-day meeting that we, with the assistance of the National Academies of Sciences, Engineering, and Medicine (National Academies), convened in June 2016 stated that there is a compelling need for such a strategy to provide a framework for strengthening the federal food safety oversight system and addressing fragmentation.[7]

Developing a national strategy for food safety oversight could also provide a framework for addressing our March 2011 recommendation for a government-wide plan and our December 2014 matters for Congress to

[7]GAO, *Food Safety: A National Strategy Is Needed to Address Fragmentation in Federal Oversight*, GAO-17-74 (Washington, D.C.: Jan. 13, 2017).

consider for government-wide planning and leadership. In addition, developing and implementing a national strategy could provide a framework for addressing criteria for removing food safety from the High-Risk List. Such a strategy could also include actions consistent with our prior suggestion that Congress may wish to assess the need for comprehensive, uniform, risk-based food safety legislation or amendment of FDA's and USDA's existing authorities.

What Remains to Be Done

To address capacity constraints for addressing fragmentation in federal oversight of food safety and to guide corrective actions and monitor progress, Congress should consider directing OMB to develop a government-wide performance plan for food safety and formalizing the Food Safety Working Group (FSWG) through statute. To provide building blocks toward OMB's development of a government-wide performance plan for food safety, USDA should implement our priority recommendation to continue building upon its efforts to implement the GPRA Modernization Act of 2010 (GPRAMA) requirements to address crosscutting food safety efforts in its strategic and performance planning documents, which HHS has already done.[8] These actions should provide federal food safety agencies with vehicles to demonstrate strong commitment to, top leadership support for, and progress in implementing corrective measures to address fragmentation in federal oversight of food safety. These actions could also be addressed through development and implementation of a national strategy for food safety oversight, which could thereby address criteria for removing food safety oversight from the High-Risk List. In addition, such a strategy could include actions consistent with our prior suggestion that Congress may wish to assess the need for comprehensive, uniform, risk-based food safety legislation or amendment of FDA's and USDA's existing authorities. If, over the next several years, weaknesses in the food safety system persist, Congress should also consider commissioning a detailed analysis of alternative organizational structures for food safety.

[8]Pub. L. No. 111-352, 124 Stat. 3866 (2011). GPRAMA amended provisions of the Government Performance and Results Act of 1993 (GPRA), Pub. L. No. 103-62, 107 Stat. 285.

Additional Details on What GAO Found

Leadership Commitment

The criterion of demonstrating commitment to, and top leadership support for, addressing fragmentation in federal oversight of food safety has been partially met. With the enactment of GPRAMA in January 2011,[9] Congress and the executive branch demonstrated strong commitment and top leadership support for improving collaboration across the federal government. GPRAMA further highlights the need for crosscutting strategic and performance planning for issues that involve multiple federal agencies and could provide the initial steps toward a government-wide performance plan for food safety.

GPRAMA added new requirements for addressing crosscutting efforts in federal strategic and performance planning. For example, GPRAMA requires agencies to describe in their strategic and performance planning documents how they are working with other agencies to achieve their goals and objectives. In December 2014, we found that HHS and USDA had taken steps to implement GPRAMA's crosscutting requirements for their food safety efforts.[10] However, the agencies did not fully address crosscutting food safety efforts in their strategic and performance planning documents. We recommended that HHS and USDA continue to build upon their efforts to implement GPRAMA requirements to address crosscutting food safety efforts in their strategic and performance planning documents. Both agencies agreed with the recommendation.

In response to the recommendation, HHS took steps to update its strategic and performance planning documents to better address crosscutting food safety efforts. For example, in February 2015, HHS updated its strategic plan to more fully describe how it is working with other agencies to achieve its food safety-related goals and objectives. As a result, we closed the recommendation to HHS as implemented. As of January 2017, USDA had not fully implemented our recommendation, although it had taken some steps toward doing so. For example, FSIS included more information on crosscutting food safety efforts in its fiscal

[9]Pub. L. No. 111-352, 124 Stat. 3866 (2011). GPRAMA amended provisions of the Government Performance and Results Act of 1993 (GPRA), Pub. L. No. 103-62, 107 Stat. 285.

[10]GAO-15-180.

year 2017-2021 strategic plan and in its draft fiscal year 2017 annual plan than it did in its prior strategic and annual plans; USDA planned to include information on interagency collaboration in its next strategic plan, according to USDA officials.

Fully addressing crosscutting food safety efforts in individual strategic and performance planning documents is an important first step toward providing a comprehensive picture of the federal government's performance in overseeing food safety. However, the agency-by-agency focus of individual planning documents alone does not provide the integrated perspective on federal food safety performance necessary to guide congressional and executive branch decision making and to inform the public about what federal agencies are doing to ensure food safety. Those individual documents could, however, provide building blocks toward the next, more challenging task of developing a single, government-wide performance plan for food safety.

The President demonstrated strong commitment and top leadership in March 2009, when the President established the FSWG to coordinate federal efforts and develop goals to make food safer. In March 2011, we indicated that creation of the FSWG was a positive step.[11] However, the group stopped meeting after about 2 years. In December 2014, we reported that, according to senior FDA and FSIS officials and OMB staff, the FSWG was no longer needed, given the existence of other collaborative mechanisms.[12] FDA and FSIS are involved in numerous mechanisms to facilitate interagency coordination on food safety; however, existing mechanisms focus on specific issues, and none provides for broad-based, centralized collaboration. For example, FDA and FSIS are collaborating with CDC through the Interagency Food Safety Analytics Collaboration to improve estimates of the most common sources of foodborne illnesses. However, this and other mechanisms do not allow FDA, FSIS, and other agencies to look across their individual programs and determine how they all contribute to federal food safety goals.

[11]GAO, *Federal Food Safety Oversight: Food Safety Working Group Is a Positive First Step but Governmentwide Planning Is Needed to Address Fragmentation*, GAO-11-289 (Washington, D.C.: Mar. 18, 2011).

[12]GAO-15-180.

In addition, the FDA Food Safety Modernization Act (FSMA)[13]—enacted in 2011 to amend existing food safety laws—includes numerous provisions requiring interagency collaboration, but these too focus on specific topics and do not provide for centralized, broad-based collaboration across food safety regulations and programs. In December 2014, we suggested that Congress consider formalizing the FSWG through statute to help ensure sustained leadership across food safety agencies over time.[14]

As of January 2017, HHS, USDA, and OMB had taken some positive steps since our 2015 high-risk update to address fragmentation in the federal food safety oversight system—including continued and expanded collaboration on specific food safety issues—but they had not addressed our March 2011 recommendation for a government-wide plan and Congress had not acted on our December 2014 matters for it to consider for government-wide planning and leadership.[15] We continue to believe that these actions are important to federal food safety oversight efforts. In January 2017, however, we also concluded that a framework for addressing these actions could be provided through development and implementation of a national strategy for food safety oversight.[16] Food safety and government performance experts who participated in a 2-day meeting that we, with the assistance of the National Academies, convened in June 2016 stated that there is a compelling need for such a strategy to provide a framework for strengthening the federal food safety oversight system and addressing fragmentation.

The experts identified stating the purpose, establishing sustained leadership, identifying resource requirements, monitoring progress, and including actions for gaining traction as key elements that should be included in a national strategy for food safety oversight; these elements are consistent with characteristics that we have identified as desirable in a national strategy. We have found that complex interagency and intergovernmental efforts, which could include food safety, can benefit from developing a national strategy and establishing a focal point with sufficient time, responsibility, authority, and resources to lead the effort. The experts did not specify which entity should lead such a strategy, but

[13]Pub. L. No. 111-353, 124 Stat. 3885 (2011).

[14]GAO-15-180.

[15]GAO-17-74.

[16]GAO-17-74.

they emphasized that it should be led by the highest level of the administration.

Past efforts to develop high-level strategic planning for food safety have depended on leadership from entities within the Executive Office of the President (EOP). By developing a national strategy to guide the nation's efforts to improve the federal food safety oversight system and address ongoing fragmentation, the appropriate entities within the EOP, in consultation with relevant federal agencies and other stakeholders, could provide a comprehensive framework for considering organizational changes and making resource decisions. Experts identified the following stakeholders as key contributors to a national strategy for food safety: federal, tribal, state, and local government agencies; industry; consumer groups; academia; and key congressional committees.

In our January 2017 report, we found that a national strategy for food safety, as described by the experts and possessing the desirable characteristics identified in our past work, could fulfill the intent behind our March 2011 recommendation for a government-wide plan and our December 2014 matters for congressional consideration for government-wide planning and leadership. Such a strategy could include all of the elements of a government-wide performance plan for federal food safety oversight, such as government-wide goals and performance indicators. In addition, we found that, to the extent that such a strategy establishes sustained leadership, it could fulfill the intent behind our December 2014 matter for Congress to consider formalizing the FSWG through statute to help ensure sustained leadership across food safety agencies over time. We therefore recommended that the appropriate entities within the EOP, in consultation with relevant federal agencies and other stakeholders, should develop a national strategy that states the purpose of the strategy, establishes high-level sustained leadership, identifies resource requirements, monitors progress, and identifies short- and long-term actions to improve the food safety oversight system. HHS and OMB did not comment on our recommendation. USDA disagreed with the need for a national strategy but cited factors to consider should changes be proposed. Even with USDA's reservations, we continue to believe that a national strategy would provide a comprehensive framework for considering organizational changes and resource decisions to improve the federal food safety oversight system. It will be up to the stakeholders participating in such a strategy to decide which actions to pursue.

Among the actions identified by experts at our June 2016 meeting for potential inclusion in a national strategy was alignment of FDA's and

USDA's existing authorities. For example, several experts mentioned modifying the statutes that FSIS implements, such as the Federal Meat Inspection Act and the Poultry Improvement Act, to align the authorities of USDA with the Federal Food, Drug, and Cosmetic Act, as amended by FSMA, which outlines FDA's responsibilities. This could help ensure a consistent approach across food commodities. Such actions would comport with our prior suggestion that Congress may wish to assess the need for comprehensive, uniform, risk-based food safety legislation or to amend FDA's and USDA's existing authorities.

Capacity

Federal food safety agencies have partially met the criterion for capacity to address the fragmentation in food safety oversight. USDA and HHS have the capacity to more fully address crosscutting food safety efforts in their individual strategic and performance planning documents; however, OMB action is needed to use those documents as building blocks to develop a government-wide performance plan on food safety. Federal food safety agencies also have the capacity to participate in a centralized collaborative mechanism on food safety—like the FSWG—but congressional action would be required to formalize such a mechanism through statute. Furthermore, appropriate entities within the EOP have the capacity to consult with relevant federal agencies and other stakeholders to develop a national strategy for food safety. Doing so could address our March 2011 recommendation for a government-wide plan and our December 2014 matters for congressional consideration for government-wide planning and leadership.

Action Plan

The criterion of having a corrective action plan has not been met. Without a government-wide performance plan for food safety, Congress, program managers, and other decision makers are hampered in their ability to identify agencies and programs addressing similar missions and to set priorities, allocate resources, and restructure federal efforts, as needed, to achieve long-term goals. Moreover, without a centralized collaborative mechanism on food safety—like the FSWG—there is no forum for agencies to reach agreement on a set of broad-based food safety goals and objectives that could be articulated in a government-wide performance plan on food safety. Development and implementation of a national strategy for food safety could also fulfill these government-wide planning and leadership needs.

Monitoring

The criterion of having a program to monitor corrective measures has not been met. Without a government-wide performance plan for food safety, federal food safety efforts are not clear and transparent to the public. Currently, to understand what government is doing to ensure the safety of the food supply, Congress, program managers, other decision makers, and the public must access, attempt to make sense of, and reconcile individual documents across the 16 federal agencies responsible for administering the more than 30 federal statutes that govern food safety and quality. This government-wide planning need could also be addressed through a national strategy for food safety.

Demonstrated Progress

The criterion of demonstrating progress in implementing corrective measures to address fragmentation in federal oversight of food safety has been partially met. As noted, HHS, USDA, and OMB took some positive steps to address fragmentation in the federal food safety oversight system—including in relation to GPRAMA crosscutting requirements and collaborative mechanisms on specific food safety issues—but they did not address our March 2011 recommendation for a government-wide plan and Congress did not act on our December 2014 matters for it to consider for government-wide planning and leadership. Development and implementation of a national strategy for food safety could fulfill these government-wide planning and leadership needs and show sustained progress in addressing fragmentation in the federal food safety oversight system.

Benefits Achieved by Implementing Our Recommendations

In response to a recommendation we made in December 2014, HHS took steps to update its strategic and performance planning documents to better address crosscutting food safety efforts.[17] For example, in February 2015, HHS updated its strategic plan to more fully describe how it is working with other agencies to achieve its food safety related goals and objectives. Among other things, HHS described its collaboration with

[17]GAO-15-180.

USDA, the Environmental Protection Agency, and others through collaborative mechanisms such as the National Antimicrobial Resistance Monitoring System, the Partnership for Food Protection, and the Food Emergency Response Network. As a result, we closed the recommendation to HHS as implemented.

GAO Contact

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Related GAO Products

Food Safety: A National Strategy Is Needed to Address Fragmentation in Federal Oversight. GAO-17-74. Washington, D.C.: January 13, 2017.

Food Safety: FDA Coordinating with Stakeholders on New Rules but Challenges Remain and Greater Tribal Consultation Needed. GAO-16-425. Washington, D.C.: May 19, 2016.

Federal Food Safety Oversight: Additional Actions Needed to Improve Planning and Collaboration. GAO-15-180. Washington, D.C.: December 18, 2014.

Federal Food Safety Oversight: Food Safety Working Group Is a Positive First Step but Governmentwide Planning Is Needed to Address Fragmentation. GAO-11-289. Washington, D.C.: March 18, 2011.

High-Risk Series: An Update. GAO-07-310. Washington, D.C.: January 2007.

Protecting Public Health through Enhanced Oversight of Medical Products

Why Area Is High Risk

Millions of medical products—drugs, biologics, and medical devices—are used daily by Americans at home, in the hospital, and in other health care settings. The Food and Drug Administration (FDA) has the vital mission of protecting the public health by overseeing the safety and effectiveness of these products marketed in the United States. The agency's responsibilities begin long before a product is brought to market and continue after FDA approves a product, regardless of whether it is manufactured in the United States or abroad.

The importance of FDA's role in ensuring our citizens' well-being cannot be overstated. In recent years, FDA has been confronted with multiple challenges. Rapid changes in science and technology, globalization, unpredictable public health crises, an increasing workload, and the continuing need to monitor the safety of thousands of marketed medical products are among the many challenges with which FDA must routinely contend. The oversight of medical products was added to our High-Risk List in 2009 because these obstacles threatened to compromise FDA's ability to protect the public health. While progress has been made, we have found that some challenges remain and new ones, such as drug shortages, have emerged.

What GAO Found

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

In 2015, we found that FDA had made substantial progress in addressing some of the concerns we raised in this high-risk area. Specifically, we determined that FDA had significantly improved its oversight of medical device recalls and the implementation of the Safe Medical Devices Act of 1990. In recognition of the agency's significant strides in these two areas, we narrowed the scope of our high-risk designation. FDA met all five criteria—demonstrating strong leadership commitment, ensuring sufficient capacity, developing both specific action plans and effective monitoring tools, and demonstrating progress—for having the high-risk designation removed for both medical device areas. At that time we also found that FDA had action plans in place to help it respond to two remaining issues of high importance: the effect of globalization on FDA's ability to monitor medical product manufacturing, and the availability of medically necessary drugs. In addition, we reported that the agency's leadership was committed to and supportive of initiatives in these two remaining areas. However, the agency's capacity to address these issues was unclear, and the effectiveness of its monitoring and lack of adequate progress was a concern. Therefore, FDA's oversight of medical products remained as a high-risk area.

Since 2015, we have found FDA has made some progress addressing our remaining concerns about globalization and drug availability. For example, FDA has demonstrated progress in responding to globalization by increasing the number of inspections it conducts of foreign manufacturing establishments producing drugs for the U.S. market. It has also improved the accuracy and completeness of information in its catalog of drug manufacturing establishments subject to inspection (which we referred to as an "inventory" in previous reports). The availability of more reliable data should enhance FDA's oversight and help FDA apply its risk-based model for selecting drug establishments for inspection. FDA also has the opportunity to better monitor drug shortages by fully utilizing a recently implemented tracking system.

Although these are positive steps, we continue to have concerns in both areas. The effectiveness of FDA's foreign offices, which began opening in 2008, has not yet been meaningfully assessed. In addition, persistently high vacancy rates in these offices suggest that they may lack the capacity to robustly monitor the global arena as the agency originally envisioned. As of July 2016, 46 percent of FDA foreign offices positions were vacant. Moreover, we found that some of the challenges FDA faces in recruiting staff to work in these offices are the same as those we reported on in 2010 and 2015.

With regard to ensuring drug availability, the way FDA monitors its drug shortage information remains a concern. Although it implemented a new tracking system—the Shortage Tracker—in March 2016, this is the fourth approach to monitoring shortages that the agency has taken in 5 years. According to FDA, it routinely enters data into the system, but the agency has not yet developed standard reports to help it manage its efforts, nor has it made plans to use these data to analyze trends or identify patterns to help it predict future shortages. Similarly, we remain concerned about the reliability and availability of information that is necessary to monitor postmarket drug safety. For example, FDA has not yet fully implemented a recommendation we made in 2013 to ensure its databases collect reliable and timely data on inspections of certain establishments that compound drugs.

In our 2015 high-risk report, we acknowledged the agency's development of an action plan to respond to drug shortages. However, the agency did not follow through on its agreement to implement a recommendation we made in 2014 to periodically analyze its drug shortage data, and its implementation of an earlier recommendation to develop an information system to systematically track data about drug shortages, including their

causes, has been inconsistent. These inconsistencies may undermine FDA's action plan and its effectiveness. In addition, in December 2015 and May 2016, we identified new concerns regarding the agency's collection of reliable data regarding postmarket drug safety and shortcomings in its broader strategic planning efforts for drugs and other medical products. As a result, we no longer consider that FDA has met the criteria associated with having an effective action plan, and are therefore changing its rating in this area from met to partially met.

In recent years, Congress has taken actions that have facilitated FDA's ability to address concerns we have identified, and make progress in this important high-risk area.

- In July 2013, we reported that FDA's authority to oversee drug compounding was unclear. The Drug Quality and Security Act, enacted in November 2013, helped clarify FDA's authority to oversee drug compounding nationally. In November 2016, we reported that since the law's enactment, FDA has issued numerous guidance documents related to compounding and conducted more than 300 inspections of drug compounders. These inspections have resulted in actions such as FDA issuing warning letters, which are issued for violations of regulatory significance, and recalls voluntarily initiated by manufacturers of potentially contaminated drugs.
- The Food and Drug Administration Safety and Innovation Act (FDASIA), enacted in July 2012, directed FDA to take a risk-based approach to inspecting both foreign and domestic drug manufacturing establishments, consistent with our 2008 recommendation. FDA has now fully implemented this provision. The number of foreign inspections has consistently increased each year since fiscal year 2009. In fiscal year 2015, FDA conducted more foreign than domestic inspections. The agency has also enhanced its risk-based approach to prioritizing drug establishments for inspection.

What Remains to Be Done

FDA's oversight of medical products has been on our High-Risk List since 2009 and has also been considered one of the top 10 management challenges identified by the Department of Health and Human Services Office of Inspector General for more than a decade. While concerns remain, FDA has made progress and, in 2015, we determined that FDA's leadership was committed to addressing our concerns related to both globalization and drug availability. In 2015, we also determined FDA had

developed meaningful action plans to address both globalization and drug availability challenges. However, FDA has not sustained this level of effort for drug availability activities in the intervening years, and we no longer consider the agency to meet the criteria for having an effective action plan.

In addition to redoubling its efforts to develop—and sustain—an effective action plan for both globalization and drug availability, FDA needs to demonstrate that it has the capacity to address multiple challenges we have identified, along with effective monitoring strategies. For example, it needs to fully execute its plan to inspect the many foreign drug establishments making drugs for the U.S. market, for which it has no inspectional history, over the next 3 years.

Furthermore, FDA should implement our prior recommendations to resolve new and previously identified concerns, including the following:

- FDA should assess the effectiveness of the foreign offices' contributions, by systematically tracking information to measure whether the offices' activities specifically contribute to drug safety-related outcomes, such as inspections, import alerts, and warning letters.
- FDA should establish goals to achieve the appropriate staffing level for its foreign offices.
- FDA should routinely use its new Shortage Tracker and conduct periodic analyses to systematically assess drug shortage information to proactively identify risk factors for potential drug shortages.
- FDA should develop comprehensive plans, including goals and time frames, to correct problems with its postmarket safety data and ensure that these data can be easily used for oversight.
- FDA should consistently collect reliable and timely information in FDA's databases on inspections and enforcement actions associated with compounded drugs.

Additional Details on What GAO Found

Response to Globalization

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

Leadership Commitment

FDA has met this criterion. In 2015, we noted FDA showed leadership commitment to this area by creating an office dedicated to confronting the challenges of globalization and helping prepare the agency to move from regulating domestic products to overseeing a worldwide market. The agency's leadership commitment was made further evident by its strategic priorities for fiscal years 2014 through 2018, which discuss its goal of expanding its regulatory presence and partnerships overseas.

Capacity

FDA has partially met this criterion. We have had longstanding concerns with the agency's capacity to respond to globalization. Its magnitude and rapid pace has complicated FDA's efforts to ensure that the medical products marketed in the United States are of high quality. Many of the medical products Americans use on a daily basis are manufactured overseas. FDA estimates that approximately 80 percent of active pharmaceutical ingredients—the key ingredients in the drugs we take—

along with nearly 40 percent of finished drugs and 50 percent of medical devices are manufactured in more than 150 countries. China and India have both significantly increased their production of medical products in recent years. India now has more drug manufacturing establishments producing drugs for the U.S. market than any other country, followed closely by China. While globalization brings benefits, it also carries risks, as some of these countries have regulatory systems less sophisticated than our own. This global marketplace has placed greater pressure on FDA to oversee the safety and effectiveness of all medical products marketed in the United States, regardless of where they are produced.

In 2008, we reported that FDA inspected relatively few foreign drug manufacturing establishments each year. We also pointed out that FDA had not used its risk-based process to select foreign establishments for inspection to the extent it had for selecting domestic establishments. Two years later, in 2010, we reported FDA had increased the number of foreign drug inspections it conducted, but that it still conducted relatively fewer foreign drug inspections. However, since 2009, FDA has enhanced its capacity to conduct inspections and has increased the number of foreign establishments it inspects each year. In fiscal year 2015, FDA conducted more foreign than domestic inspections. Establishments in China and India were inspected by FDA more than those in other foreign countries.

More recently, we have questioned the effectiveness of FDA's foreign offices, which are overseen by its Office of International Programs (OIP). FDA began opening these offices in 2008 to obtain better information on products coming from overseas. Among other things, these offices help FDA build partnerships with its regulatory counterparts and industry members overseas, and help certain countries improve their regulatory capacities. Staff in these offices also inspect foreign establishments, gather intelligence, and foster information sharing with FDA headquarters. In December 2016, we reported that, while foreign office staff have inspected drug establishments overseas, they have conducted relatively few such inspections and may not have the capacity to do more. Most inspections of foreign drug establishments have been conducted by FDA's domestically-based staff. Foreign office staff have conducted 5 percent of these inspections since fiscal year 2010.

Further, the persistently high vacancy rates in these offices suggest that they may lack the capacity to robustly assist FDA and monitor the global arena, as the agency originally envisioned. As of July 2016, 46 percent of the offices' positions were vacant, up slightly from 44 percent in October

2014. Moreover, we found that FDA still faces some of the challenges of recruiting staff to work in these offices that we identified in 2010 and 2015.

Although FDA recently finalized a strategic workforce plan, as we recommended in 2010, we have identified several weaknesses in it. For example, the plan does not target vacancies by specific position types. While FDA recognizes its vacancy rate in its foreign offices is high and has set a goal of reducing this rate, the measure it has developed targets all of the staff in OIP, including those who are domestically-based. Thus, FDA could increase the number of domestically-based staff in OIP and fulfill its goal without reducing vacancies in its foreign offices. We remain concerned that, without targeting the foreign offices specifically or the types of positions most likely to have vacancies, FDA will not have a meaningful measure reflecting its true staffing needs overseas. In December 2016, we recommended that FDA establish goals to achieve the appropriate staffing levels for its foreign offices, which would include separating foreign office vacancies from the OIP-wide vacancy rate and setting goals by position type. We believe such actions are needed in order for FDA to demonstrate progress and help ensure that its foreign offices have the capacity to monitor conditions abroad and meaningfully contribute to drug safety. FDA said it is taking immediate steps to address this recommendation.

Action Plan

FDA has met this criterion. In 2015, we recognized that FDA had developed an action plan for building a stronger, more secure global product safety net. In addition, we noted that FDA developed plans to partner with foreign regulatory authorities to leverage resources through increased information sharing following the enactment of FDASIA in 2012, which increased FDA's ability to strengthen its efforts in this area. FDASIA also reinforced our 2008 recommendation that the agency should take a risk-based approach to selecting both foreign and domestic drug manufacturing establishments for inspection, which helped FDA develop plans to prioritize its drug inspections.

Monitoring

FDA has partially met this criterion. We have been critical of FDA's internal monitoring of its drug inspection program since as early as 1998, when we reported that the agency's own internal evaluations concluded that it did not have a comprehensive data management system to monitor

foreign manufacturers. The evaluations concluded that unless corrected, problems in FDA's foreign inspection program could allow adulterated and low-quality drugs to be imported, posing serious health risks to Americans. Although the agency was aware of this problem, we found that similar problems persisted in 2008 and 2010, which affected the agency's ability to manage the foreign drug inspection program.

FDA has recently taken steps to better monitor its drug inspection program. In December 2016, we reported that FDA formalized its process for developing, evaluating, and documenting key decisions about the risk-based model that it will use to select drug establishments to inspect each year. FDA previously lacked a process for tracking revisions to its model and, as a result, officials were unable to recall or explain all the changes to the model over time. FDA's documentation will now chronicle decisions made regarding which factors were included in the model in a particular year, according to officials. FDA officials also said that our prior reviews reinforced the need for written procedures.

FDA has also taken steps to improve the accuracy and completeness of the information it uses to manage its foreign drug inspection program. The databases that FDA was using to select establishments to inspect did not contain accurate information on the number of establishments manufacturing drugs for the U.S. market, as we reported in 2008. Two years later, in 2010, we also found that 64 percent of the foreign establishments in FDA's catalog may have never been inspected, almost half of which were in China and India. To help the agency manage its catalog of data, FDA established a data governance board in May 2015 to define standards, best practices, and policies, on which FDA's oversight depends, including the veracity of its risk-based site selection model. FDA officials said the board has developed guidance for merging data processes and is working toward defining data metrics to determine whether they have improved on their reporting. The board has also defined data standards for storing key attributes of establishments, such as companies' names, and continues to examine best practices for sharing establishment data across FDA.

This action has helped FDA reduce the number of establishments in its catalog that may never have had a surveillance inspection. Currently, FDA lacks information on the inspection history of 33 percent of the foreign establishments in its catalog, compared to the 64 percent for which it lacked inspection history in 2010. While the agency has made progress in reducing this knowledge gap, it is important to note that the overall number of foreign establishments with no surveillance inspection

history remains large, with about 1,000 of the approximately 3,000 in its catalog of establishments with no inspection history. To address this persistent concern, the agency plans to inspect all establishments in its catalog with no prior surveillance inspection history over the next 3 years (approximately one-third each year), beginning in fiscal year 2017.

In addition, FDA has not sufficiently monitored the contributions of its foreign offices or meaningfully assessed their effectiveness. While these offices engage in collaborative activities with foreign stakeholders, FDA does not systematically track how information collected by the offices has contributed to drug safety. The agency has been considering the best approach to assessing the future needs of its foreign offices and measuring their performance. In 2014 and 2015, FDA's Office of Planning compiled detailed information about their operations, including their workforce composition.

More recently, in July 2016, FDA's Office of Planning completed an internal evaluation to develop an evidence-based, collaborative, and repeatable process to select foreign post locations, considering the effects of cost, legislation, and program alignment on FDA foreign post operations, and the appropriate mix of FDA staffing at the posts. This evaluation proposed a process for determining the correct mix of staffing and position types for the foreign offices. The results of this evaluation suggest that the foreign offices would benefit from strategically aligning their operational activities and desired public health impacts. However, OIP has yet to implement and apply the process to the foreign offices. In December 2016, we recommended that FDA assess the effectiveness of the foreign offices' contributions, which would require systematically tracking information to measure whether the offices' activities specifically contribute to drug safety-related outcomes. FDA said it is taking immediate steps to address this recommendation.

Demonstrated Progress

FDA has partially met this criterion. Since 2015, FDA has taken a variety of steps to respond to globalization and has made progress in meeting this challenge. For example, FDA has

- strengthened its monitoring of foreign drug establishments by improving the accuracy and completeness of information used to develop its catalog of drug manufacturing establishments subject to inspection. The availability of more reliable data should enhance

FDA's monitoring and oversight while helping it apply its risk-based model for prioritizing drug establishments for inspection.

- taken a risk-based approach to inspecting both foreign and domestic drug manufacturing establishments, in accordance with a directive in FDASIA and consistent with our 2008 recommendation.
- formalized its process for prioritizing the establishments it inspects to determine compliance with good manufacturing requirements, based on certain risk factors specified by FDASIA.
- decided that, starting in fiscal year 2017, the agency will allow no more than 5 years to elapse between inspections at a specific establishment.

Yet, FDA still faces challenges overseeing the global marketplace and must continue to demonstrate progress in conducting more inspections of foreign establishments. There remain a large number of foreign establishments making drugs for the U.S. market—almost 1,000—that may never have been inspected.

Drug Availability

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

Over the last decade, prescription drugs—including those that are life-saving and life-sustaining—have been in short supply, preventing health

care providers and patients from accessing medications that are essential for treatment. Those in shortage have included essential therapies, such as anesthetic, anti-infective, cardiovascular, nutritive, and oncology drugs. Although the number of new shortages reported each year has generally decreased since 2011, the number of ongoing shortages—those that began in prior years—have remained high. Since 2013, the majority of the ongoing shortages in a given year were first reported at least 2 years earlier. We have issued several reports on this topic since 2011 and made recommendations to enhance the agency's ability to respond and oversee shortages. FDA has since implemented some of these recommendations.

Leadership Commitment

FDA has met this criterion by demonstrating leadership commitment to responding to drug shortages, which we recognized in 2015. Its strategic priorities for fiscal years 2014 through 2018 emphasize its continued commitment to responding to shortages. FDASIA also required FDA to issue a strategic plan to enhance the agency's ability to prevent and mitigate shortages. FDA issued this strategic plan in October 2013.

Capacity

FDA has partially met this criterion. For example, we recommended that FDA assess how it allocates its resources to improve the agency's capacity to respond to drug shortages. FDA has done so and increased the number of personnel devoted to shortages as of 2013. In 2014, we found that, while shortages persisted, FDA had prevented more potential shortages than it had in the prior 2 years by, for example, working with manufacturers to increase production. More recently, in 2016, we reported that FDA prioritized its review of nearly 400 applications to market generic drugs (or supplements to existing approved new or generic drug applications) to address shortages from January 2010 through July 2014. We analyzed a subset of those submissions and found that some were approved before the shortage was prevented or resolved. Although the timing of FDA's approvals of submissions could not be directly linked to the resolution of particular shortages, we believe that prioritizing reviews may be a useful strategy in addressing some drug shortages. Despite the agency efforts, shortages persist and we recognize that FDA cannot resolve this concern alone. Nonetheless, there is more FDA could do. For example, given that the median time to approve prioritized generic drug applications is over a year, this approach is generally not a strategy for addressing shortages in the short term. In

addition, FDA's ability to manage risk-based decisions and proactively help prevent and resolve shortages may be hindered because it does not routinely analyze the data it collects.

Action Plan

FDA now partially meets this criterion. In 2015, we rated FDA as meeting this criterion. However, we are changing this rating to partially meets due to shortcomings that we identified in recent reports, as discussed below.

In order to protect public health, FDA works to ensure the availability of medically necessary drugs and the safety of the drug supply. In our 2015 high-risk report, we credited FDA for having an action plan that focuses on its capacity to respond when alerted to supply disruptions and on developing long-term prevention strategies to address the causes underlying supply disruptions. However, more recently we have identified several concerns with the agency's readiness and plans to collect, track, and analyze data related to drug shortages and postmarket drug safety. We have also reported on shortcomings in its broader strategic planning efforts related to drugs and other medical products. We no longer consider that FDA has met the criteria associated with having an effective action plan.

In 2011, we recommended that FDA develop an information system to enable the agency to manage its daily workload in a systematic manner, track data about drug shortages—including their causes and FDA's responses—and share information across FDA offices regarding drugs that are in short supply. Later, in 2014, we went a step further by recommending that FDA periodically analyze its drug shortages data to routinely and systematically assess this information, and use it proactively to identify risk factors for potential drug shortages. FDA's response to these two recommendations has been mixed and an action plan has not been fully developed to implement these recommendations.

In 2011, FDA relied on e-mail status reports to track shortages. Later that year it began using an electronic spreadsheet, which was replaced by a drug shortage database in 2012. A new drug shortage data system followed in 2014. But FDA's planning did not result in a smooth transition from one system to another. FDA suspended its use of the drug shortage database at the end of 2013 while it was developing the more robust drug shortage data system. The transition to the new data system took longer than anticipated and FDA documented limited information about shortages using manual logs during an extended period in 2014. FDA

began using its new data system in late 2014, and information on new and active shortages in 2014 was entered retroactively into this system. However, that system is no longer in use and FDA has now adopted an even newer system—its fourth approach to monitoring shortages in 5 years. The Shortage Tracker was implemented in March 2016. While it appears promising, FDA officials said it has been populated with data going back to January 2015 only, precluding the agency from easily conducting extensive analyses of trends prior to that date. Moreover, the agency has not yet made plans to use these data to analyze trends or identify patterns to help it predict future shortages, nor has it developed standard reports to assist with managing its efforts.

Similar to our concerns with FDA's drug shortage data, the reliability and availability of information that is necessary to monitor postmarket drug safety is limited. FDA lacks an action plan to address these issues. For example, in July 2013 we reported that FDA lacks timely and reliable information to oversee the entities that compound drugs, including timely, reliable information on the findings of inspections of these entities. FDA's inspection database did not always distinguish compounding pharmacies from manufacturers of human or veterinary drugs. In addition, its database did not consistently reflect the agency's final determination of an individual inspection's results. We also found that the agency lacked reliable data to make decisions to prioritize its inspections of such pharmacies and other follow-up and enforcement actions. We recommended that FDA ensure its databases collect reliable and timely data on inspections of certain establishments that compound drugs, but the agency has not yet fully implemented this recommendation, which would improve its monitoring.

Similarly, in December 2015, we found that FDA lacks reliable, readily accessible data on tracked safety issues and postmarket studies needed to meet certain postmarket safety reporting responsibilities, and to conduct systematic oversight. Tracked safety issues are potential safety issues that FDA determines are significant and that it tracks using an internal database. However, FDA's evaluations of its database revealed problems with the completeness, timeliness, and accuracy of the data. For example, data on tracked safety issues were incomplete, postmarket study data were outdated and contained inaccuracies, and tracked safety issue and postmarket study data were not readily accessible to FDA staff for analysis. These problems, as well as problems with the way data are recorded that impair their accessibility, have prevented FDA from publishing statutorily required reports on certain potential safety issues and postmarket studies in a timely manner, and have restricted the

agency's ability to perform systematic oversight of postmarket drug safety.

FDA has demonstrated some progress in addressing the problems with its data. However, the agency lacks plans that comprehensively outline its efforts and establish related goals and time frames. We recommended that FDA develop plans to correct problems with its postmarket safety data and ensure that these data can be easily used for oversight. While FDA recognized the challenges with its ability to track safety issues and has begun some efforts to improve its data, the agency has not provided comprehensive plans, with goals and time frames, to help ensure that FDA corrects the identified problems with its database on safety issues and postmarket studies.

In addition to our concerns about FDA's action plan to improve its oversight capabilities, we recently identified shortcomings in the agency's broader strategic planning efforts. In May 2016, we reported that FDA's strategic integrated management plan for its three centers that oversee medical products (biologics, drugs, and medical devices) does not incorporate leading practices for strategic planning or document a comprehensive long-term strategy for the centers. For example, the plan presents high-level information on goals and performance measures for medical product oversight, but lacks detail on how it will be used or implemented. Furthermore, while the plan states that it reflects coordination and cooperation among the medical product centers to address their program-specific needs, share best practices, and share common solutions, FDA officials acknowledged that they do not use the plan to address issues requiring center collaboration, and acknowledged that the plan did not represent the full range of working relationships among the centers. Moreover, the strategic integrated management plan does not fully link its performance goals to its general goals and objectives.

We also found in May 2016 that FDA lacks measurable goals to assess its progress in advancing regulatory science—the science supporting its effort to assess the products it regulates. Although the agency issued strategic planning documents in 2011 and 2013 to guide its regulatory science efforts and identify priority areas for conducting work, these documents do not specify the targets and time frames necessary for the agency to measure progress overall or within each of the eight priority areas related to medical products. According to leading practices for strategic planning, identifying and using consistent measurable goals in planning and progress documents is important to assessing

effectiveness. While FDA cited examples of its achievements in regulatory science in a 2015 report, it cannot assess how those achievements constitute progress towards its goals. In addition, FDA lacks information about how funding targeted at regulatory science is distributed across the priority areas. Decisions to award these funds are made by individual FDA centers and offices, which generally did not collect information on the associated priority areas of funded projects. Rather, FDA retrospectively identified these areas for the purpose of our review. The lack of consistent information limits FDA's ability to examine obligations across, or progress within, specific priority areas. Furthermore, multiple centers or offices fund projects toward a given priority area and leading practices for strategic planning encourage agencies to manage efforts that cut across the agency.

Given the totality of our concerns, which range from needing action plans to address specific weaknesses we have identified to the agency's overall strategic planning, we no longer consider that FDA has met the criteria associated with having an effective action plan. This criterion requires that a corrective action plan exist that defines the root cause, identifies solutions, and explains how an agency will substantially complete corrective measures, including steps necessary to implement solutions we recommended. We are therefore changing FDA's action plan rating in this area, as well as its overall rating, from met to partially met.

Monitoring

FDA has partially met this criterion and we remain concerned about the extent of the agency's monitoring efforts. FDA officials said they have not yet developed standard reports to help the agency manage its efforts, nor has the agency implemented our 2014 recommendation to periodically analyze its drug shortages data to analyze trends or identify patterns to help it predict future shortages. While the drug shortage staff said that FDA's Office of Pharmaceutical Quality will be interested in using data to conduct rigorous analyses for predicting shortages and risk factors, the drug shortage staff have not provided reports to any FDA components, raising questions about the agency's commitment to conducting such analyses and leaving this recommendation unimplemented.

We are also concerned that the annual reports FDA has issued to Congress on drug shortages have been limited, with no report providing data for more than a 9-month period. This annual report, which is required by FDASIA, is due no later than the end of the calendar year. FDA staff explained to us that it is not possible to issue a report containing 12

months of calendar year data by December 31, and they therefore report data from the first 9 months. However, FDA has not met the December 31 deadline, with publication dates ranging from February 5 through April 17. Given that the agency has never met its publication deadline, we believe it would be more helpful that policymakers receive a full year's worth of data—such as data covering the federal fiscal year (October 1 through September 30)—so they could more closely monitor shortage information themselves and obtain a more realistic view of this serious public health problem.

Demonstrated Progress

FDA has partially met this criterion by taking actions in recent years. FDA has implemented some of our recommendations, including one we made in 2014 regarding the need for the agency to develop policies and procedures for its drug shortages information management system, now known as the Shortage Tracker. These policies and procedures should help ensure information is entered into the Shortage Tracker consistently and accurately. FDA has assessed how it allocates its resources to improve the agency's capacity to respond to drug shortages and increased the number of personnel devoted to shortages, as we recommended in 2011. In addition, FDA elevated the office of its drug shortage staff to a more prominent position in the agency and assigned drug shortage coordinators in each of its 20 district offices to help bring drug shortage-related concerns to light earlier, such as inspections citing violations of good manufacturing practices at establishments producing a large volume of drugs. And as we recommended in 2011, FDA has issued a strategic plan to enhance the agency's ability to prevent and mitigate shortages, and also developed results-oriented performance metrics that can help evaluate program performance.

FDA has demonstrated some progress in this area, but drug shortages remain a serious public health concern and there is more FDA can do, including fully addressing the recommendations we made in 2011 and 2014. While FDA developed the new Shortage Tracker in March 2016—its fourth approach to monitoring shortages in the last 5 years—it needs to use this system consistently and share information across FDA offices regarding drugs that are in short supply. FDA also needs to periodically analyze this information to proactively identify risk factors for potential drug shortages early, thereby potentially helping FDA to recognize trends, clarify causes, and resolve problems before drugs go into short supply.

Benefits Achieved by Implementing Our Recommendations

- FDA is now conducting more inspections of foreign manufacturing establishments producing drugs for the U.S. market, and is taking a risk-based approach by combining foreign and domestic establishments into a single list to prioritize establishments for inspection.
- FDA has improved the accuracy and completeness of information in its catalog of drug manufacturing establishments subject to inspection.
- FDA has developed a new drug shortage tracking system.

GAO Contact

For additional information about this high-risk area, contact Marcia Crosse at 202-512-7114 or crossem@gao.gov

Related GAO Products

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.

Drug Compounding: FDA Has Taken Steps to Implement Compounding Law, but Some States and Stakeholders Reported Challenges. GAO-17-64. Washington, D.C.: November 17, 2016.

Drug Shortages: Certain Factors Are Strongly Associated with This Persistent Public Health Challenge. GAO-16-595. Washington, D.C.: July 7, 2016.

Food and Drug Administration: Comprehensive Strategic Planning Needed to Enhance Coordination between Medical Product Centers. GAO-16-500. Washington, D.C.: May 16, 2016.

Medical Product Oversight: FDA Needs More Strategic Planning to Guide Its Scientific Initiatives. GAO-16-432. Washington, D.C.: May 16, 2016

Drug Safety: FDA Expedites Many Applications, But Data for Postapproval Oversight Need Improvement. GAO-16-192. Washington, D.C.: December 15, 2015.

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Drug Shortages: Public Health Threat Continues, Despite Efforts to Help Ensure Product Availability. GAO-14-194. Washington, D.C.: February 10, 2014.

Drug Compounding: Clear Authority and More Reliable Data Needed to Strengthen FDA Oversight. GAO-13-702. Washington, D.C.: July 31, 2013.

Drug Shortages: FDA's Ability to Respond Should Be Strengthened. GAO-12-116. Washington, D.C.: November 21, 2011.

Transforming EPA's Process for Assessing and Controlling Toxic Chemicals

Why Area Is High Risk

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. Such assessments are the cornerstone of scientifically sound environmental decisions, policies, and regulations under a variety of statutes, such as the Safe Drinking Water Act, the Toxic Substances Control Act (TSCA), and the Clean Air Act. EPA conducts assessments of chemicals under its Integrated Risk Information System (IRIS) program. EPA is also authorized under TSCA to obtain information on the risks of chemicals and to control those the agency determines pose an unreasonable risk. Because EPA had not developed sufficient chemical assessment information under these programs to limit exposure to many chemicals that may pose substantial health risks, we added this issue to the High-Risk List in 2009 as a government program in need of broad-based transformation. The Frank R. Lautenberg Chemical Safety for the 21st Century Act, enacted on June 22, 2016, provides EPA with greater authority to address chemical risks, but implementing it will take time.

What GAO Found

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

EPA has again met the criteria for leadership commitment, and its former administrator and top leadership publicly stated their focus on improving the IRIS program and implementing the 2016 TSCA reform legislation through its TSCA program. The agency has begun to align people and resources to address the current and future workload of these programs. For the IRIS program, EPA has partially met the criteria for capacity, an improvement over its previous rating, in part because it issued an IRIS Multi-Year Agenda in December 2015 that focused on the need for IRIS assessments over the next few years. EPA has again not met the criteria for capacity for its TSCA program, and with new TSCA authority, it is unclear if EPA has the people and resources to implement the new law. Overall, EPA needs to continue to determine for both the IRIS and TSCA programs if it has adequate capacity to resolve this high-risk area. EPA needs to work with Congress to ensure that the resources dedicated to IRIS and TSCA activities are sufficient to maintain a viable IRIS database of chemical assessments, and effectively implement TSCA reform activities. EPA has partially met the criteria for having a corrective action plan by issuing an IRIS Multi-Year Agenda. EPA has also partially met the criteria for having a corrective action plan by increasing its efforts to obtain chemical toxicity and exposure data, initiating chemical risk assessments, and reviewing certain new uses of chemicals, but it is too

early to tell whether these actions will reduce chemical risks. EPA needs to continue to implement the TSCA reform legislation and define how it will implement corrective actions to assess and control toxic chemicals.

EPA has now met the criteria for monitoring the IRIS program by finalizing the IRIS Multi-Year Agenda and other actions, including continuing to submit IRIS assessments for independent review to entities with scientific and technical credibility. EPA has not met the criteria for monitoring the TSCA program; to help ensure that the resources dedicated to TSCA are sufficient for effectively implementing the new law, EPA needs to institute a program to monitor and independently validate the effectiveness and sustainability of its initiative to use the new TSCA authorities. For the IRIS program, EPA has now partially met the criteria for demonstrated progress by, among other things, issuing five IRIS assessments since fiscal year 2015—as of January 19, 2017—and making three assessments available for public comment in fiscal year 2016 in preparation for an external peer review meeting associated with that particular assessment. For the TSCA program, EPA has not met the criteria for demonstrated progress. Both the IRIS and TSCA programs need to continue to implement corrective actions to resolve this complex high-risk area.

Passing the Frank R. Lautenberg Chemical Safety for the 21st Century Act 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. 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.

What Remains to Be Done

Integrated Risk Information System

- We recommended that EPA periodically assess the level of resources that should be dedicated to the Integrated Risk Information System

(IRIS) program to meet user needs and maintain a viable database.[1] EPA determined the types of IRIS assessments to conduct, based on the needs of EPA's Program Offices and other users, as reported in the IRIS Multi-Year Agenda and in deliberative documents provided to us in October 2016. However, EPA has not established a schedule for regularly revisiting its assessment of resource needs to ensure that priorities are consistent with user needs over time.

- We recommended two actions about EPA's time frames for IRIS assessments.[2] First, we recommended that EPA assess the feasibility and appropriateness of the established time frames for each step in the IRIS assessment process, including whether different time frames should be established for different types of IRIS assessments. Second, should different time frames be necessary, we recommended that EPA establish a written policy that clearly describes the applicability of the time frames for each type of IRIS assessment to provide greater predictability to stakeholders. In July 2013, EPA issued what the agency described as enhancements to the IRIS process to address, in part, these priority recommendations. EPA developed two sets of timelines for the IRIS assessment process and provided us with details about them and its online chemical information tracking system; however, EPA needs to determine whether different time frames should be established.
- We recommended three actions encouraging transparency about the status of planned and ongoing IRIS assessments.[3] First, we recommended that EPA indicate in published IRIS agendas which chemicals it is actively assessing and when it plans to start assessments of the other listed chemicals. Second, we recommended that EPA update the IRIS Substance Assessment Tracking System (IRISTrack) including projected and actual start dates and other information, and to keep this information current. Third, we recommended that EPA publish the IRIS agenda in the Federal Register on an annual basis. In October 2016, EPA officials told us that they believed they had met the intent of these recommendations by publishing an IRIS Multi-Year Agenda in December 2015. However, EPA still needs to provide current and accurate information

[1]GAO, *Chemical Assessments: Low Productivity and New Interagency Review Process Limit the Usefulness and Credibility of EPA's Integrated Risk Information System*, GAO-08-440 (Washington D.C: Mar. 7, 2008).

[2]GAO, *Chemical Assessments: Challenges Remain with EPA's Integrated Risk Information System Program,* GAO-12-42 (Washington, D.C.: Dec. 9, 2011).

[3]GAO-12-42.

on chemicals that the agency plans to assess through the IRIS program for IRIS users on an annual basis. The Multi-Year Agenda does not identify projected start dates for new assessments, and therefore is not ensuring that current and accurate information on chemicals that EPA plans to assess through IRIS is available to IRIS users. Using the Federal Register to communicate these plans offers greater transparency to the public about the IRIS process than other forms of communication.

- We recommended that EPA develop a strategy to address the needs of its Program Offices and regions when IRIS toxicity assessments are not available.[4] Officials from select EPA offices stated that, in the absence of agency-wide guidance, they used a variety of sources, other than IRIS toxicity assessments to meet their needs, including toxicity information from other EPA offices, or other state or federal agencies. IRIS program officials also stated that there is no agency-wide mechanism for EPA to ensure that chemicals without sufficient scientific data during one nomination period will have such information by subsequent nomination periods. We recognize that the development of EPA's Multi-Year Agenda, issued in December 2015, was a productive effort that EPA told us included an extensive evaluation of user needs. However, the agency does not have a strategy for addressing data gaps or have assurance that its efforts will be sustainable over time. EPA needs to address this priority recommendation by developing: (1) an agency-wide strategy that addresses coordination across EPA offices and with other federal research agencies to help identify and fill data gaps that preclude the agency from conducting IRIS toxicity assessments, and (2) guidance that describes alternative sources of toxicity information and when it would be appropriate to use them when IRIS values are not available, applicable, or current.

Toxic Substances Control Act

After many years of congressional committees considering legislation aimed at reforming the Toxic Substances Control Act (TSCA), in June 2016, Congress passed and the President signed the Frank R. Lautenberg Chemical Safety for the 21st Century Act, which gave EPA greater authority to improve its processes for assessing and controlling toxic chemicals. EPA and Congress need to continue to ensure that the

[4]GAO, *Chemical Assessments: An Agencywide Strategy May Help EPA Address Unmet Needs for Integrated Risk Information System Assessments,* GAO-13-369 (Washington, D.C.: May 10, 2013).

resources dedicated to TSCA activities are sufficient to effectively implement the new law.

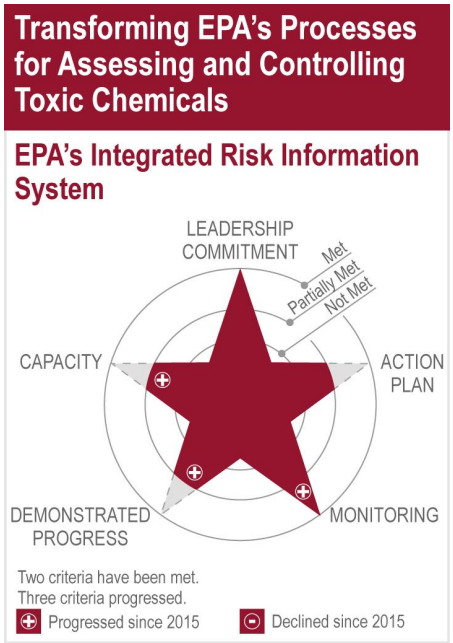
- We made three priority recommendations to address challenges EPA has faced obtaining toxicity and exposure data, banning or limiting the use of chemicals, and identifying resource needs.[5] First, we recommended that EPA issue a rule to obtain toxicity and exposure data that chemical companies have submitted to the European Chemicals Agency. Second, we recommended that EPA issue a rule to obtain exposure-related data from processors. Third, we recommended that EPA develop strategies for addressing challenges associated with obtaining these data, banning or limiting the use of chemicals, and identifying resource needs. Because EPA has used its authority to limit or ban only five chemicals since TSCA was originally enacted in 1976, in part, because it believed it didn't have enough information, we made these recommendations to address these concerns. The Frank R. Lautenberg Chemical Safety for the 21st Century Act, enacted on June 22, 2016, provides EPA with greater authority to address chemical risks, but implementing it will take time.

With the implementation of the Frank R. Lautenberg Chemical Safety for the 21st Century Act, we believe EPA can make progress on these open recommendations. The act substantially revises TSCA and requires EPA to carry out numerous rulemaking and other activities within the next 2 years. In early 2016, we started a review of the TSCA program. With the passage of TSCA reform, we decided to suspend our review and give EPA time to implement the new law. In October 2016, as part of our recommendation follow-up process, we reviewed information on the new TSCA provisions. EPA officials told us that with new TSCA authority, the agency is better positioned to take action to require chemical companies to report chemical toxicity and exposure data. The new law authorizes EPA to order companies to develop new information relating to a chemical as necessary for prioritization and risk evaluation. This authority may help EPA to gather new information, as necessary, to evaluate hazard and exposure risks. TSCA reform legislation offers promise for EPA implementation of our recommendations and bringing the agency closer to achieving its goal of ensuring the safety of chemicals.

[5]GAO, *Toxic Substances: EPA Has Increased Efforts to Assess and Control Chemicals but Could Strengthen Its Approach,* GAO-13-249 (Washington, D.C.: Mar. 22, 2013).

Additional Details on What GAO Found

IRIS



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

Leadership Commitment

EPA has met the criteria for leadership commitment. In July 2013, the then-EPA Administrator demonstrated leadership commitment to the IRIS program by identifying action on toxics and chemical safety as one of her top seven priorities for the agency. EPA's IRIS database is intended to provide the basic information the agency needs to determine whether it should establish controls to, for example, protect the public from exposure to toxic chemicals in the air, in water, and at hazardous waste sites. "Taking action on toxics and chemical safety" was one of the prior EPA Administrator's priorities for meeting the challenge ahead—a priority that includes the IRIS program. In addition, EPA established an IRIS Executive Review Committee after the 2014 National Research Council report identified the need for quality management of IRIS assessments. According to internal EPA documents, the Executive Review Committee provides a mechanism for the National Center for Environmental Assessment—the center that houses the IRIS program—to endorse IRIS

assessments prior to public release, and among other goals, serves to provide a management-level review for consistency and quality control across assessments. Also, the Office of Research and Development's Deputy Assistant Administrator worked with other EPA Deputy Assistant Administrators in Program Offices, such as the Office of Water and Deputy Regional Administrators, to develop the IRIS Multi-Year Agenda. EPA's top leadership has also demonstrated support for improving the IRIS program by continuing to implement recommendations from us and EPA's Science Advisory Board, and suggestions from the National Academies.

Capacity

EPA has partially met the criteria for capacity, after not meeting the criteria in 2015. In May 2013, we reported that EPA had not recently evaluated the demand for IRIS toxicity assessments with input from users inside and outside EPA. In response to our report, EPA started work on an IRIS Multi-Year Agenda in the summer of 2013 and issued it in December 2015. According to EPA, the purpose of the agenda was to: (1) identify IRIS assessments currently underway and their status; (2) prioritize IRIS assessments that will be initiated over the next few years; and (3) evaluate assessment needs and develop an update process for existing IRIS values. Now that EPA has finalized the agenda, the agency is better informed about how many people and resources to dedicate to the IRIS program.

We have reviewed internal EPA documents on the need for people and resources, and the IRIS program has started to determine if it has the capacity to address the issues it faces. Because of EPA's efforts to develop the Multi-Year Agenda, in October 2016, we closed a priority recommendation we made to EPA in 2008 for the program to determine the types of IRIS assessments to conduct on the basis of the needs of EPA's Program Offices and other users. EPA's actions are a good starting point for EPA's continued process for determining the types of IRIS assessments to conduct on the basis of the needs of EPA's Program Offices and others.

Action Plan

EPA continues to partially meet the criteria for having an action plan to address measures we recommended, and has made progress. For example, by developing the IRIS Multi-Year Agenda and providing us with internal EPA documents, EPA has begun to document how the agency

applies its selection criteria for IRIS toxicity assessments, including the circumstances under which Program Offices and Regions may or may not need an IRIS toxicity assessment—a priority recommendation we made in 2013 and closed in October 2016. As of October 2016, EPA officials told us that the agency evaluated user needs for toxicity assessments as part of its process for developing the Multi-Year Agenda it issued in December 2015. EPA also indicated that the agency used six general criteria to inform the selection of chemicals for assessment or reassessment, and it documented this process in an internal working table as part of its process for developing the agenda. By beginning to document how it applies its IRIS selection criteria, the IRIS program can start to determine a corrective action plan that defines root causes and solutions to move the program forward. EPA needs to be as transparent as possible when applying the selection criteria so that IRIS stakeholders can know how EPA is choosing what assessments to start and why.

Monitoring

EPA has met the criteria for monitoring the IRIS program—after partially meeting the criteria in 2015—by finalizing the IRIS Multi-Year Agenda and other actions. Specifically, the program identified and evaluated demand for the number of IRIS toxicity assessments and resources required to meet users' needs—a priority recommendation we made in 2013 and closed recently based on internal documents provided by EPA. Moreover, EPA presented a plan for how the agency will implement the National Academies' suggestions for improving IRIS assessments in the "roadmap for revision" included in the National Academies' peer review report on the draft formaldehyde assessment. The National Academies' most recent report on the IRIS program, issued in May 2014, independently validates some of the corrective measures the program is implementing. EPA also created the Chemical Assessment Advisory Committee in January 2013, and uses it to provide continuing, consistent review of IRIS assessments and comment on implementing the National Academies' suggestions in specific IRIS assessments—a recommendation we made in December 2011 and closed in the fall of 2016. All of these actions demonstrated EPA's commitment to monitoring the IRIS program.

Demonstrated Progress

EPA has partially met the criteria for demonstrating progress in implementing corrective measures by taking actions, such as releasing the IRIS Multi-Year Agenda that publicly identifies the current and future IRIS assessments. As of January 19, 2017, EPA issued two assessments

in fiscal year 2017, two assessments in fiscal year 2016, and one assessment in fiscal year 2015. In addition, EPA made three assessments available for public comment in fiscal year 2016 in preparation for an external peer review meeting associated with that particular assessment.

The IRIS program has also demonstrated progress by establishing Stopping Rules, which, among other things, were implemented to increase flexibility to revise draft assessments as needed after hearing the public's comments prior to peer review. EPA told us that the Stopping Rules also are important to the IRIS process to determine how to include new studies in an assessment without delaying the process or cycling through repeated revisions and re-revisions.

Because of these actions, we closed a 2008 priority recommendation that demonstrated progress in implementing corrective measures. The recommendation called for EPA to conduct IRIS assessments on the basis of peer-reviewed scientific studies available at the time of the assessment, and develop criteria for allowing assessments to be suspended to await the completion of scientific studies only under exceptional circumstances. Although EPA officials told us that the agency has not formally invoked the Stopping Rules in response to a request to delay an assessment to incorporate studies, they told us they apply the rules in their everyday work when deciding whether to include new studies at different points in the IRIS development process. EPA said they would characterize the Stopping Rules as public IRIS policies that are in place to avoid delay for the inclusion of new studies or analysis that they believe would not affect the assessment's conclusions.

TSCA

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

Over the past two decades, we reported that EPA had found much of TSCA difficult to implement—hampering the agency's ability to obtain certain chemical data or place limits on chemicals. For example, EPA has found it difficult to obtain adequate information on toxicity—that is, the degree to which the chemical is harmful or deadly—and exposure levels—the frequency and duration of contact with the chemical. Without this information, it is difficult for EPA to determine whether a chemical poses an unreasonable risk to human health or the environment, and then take any action necessary to regulate such chemicals. The Frank R. Lautenberg Chemical Safety for the 21st Century Act, which reformed TSCA, was enacted on June 22, 2016. 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.

Leadership Commitment

EPA continues to meet the criteria for leadership commitment because of the former EPA Administrator's explicit support for taking action on toxics, including TSCA. In addition, the former Administrator and top leadership have expressed support for implementing TSCA reform. For example, the former Administrator said that, as with any major policy reform, this one

includes compromises. But the former Administrator noted that the legislation should help EPA's mission to protect public health and the environment.

Capacity

As in 2015, EPA has not met the criteria for capacity because the agency has not yet issued a workload analysis which is needed to determine whether EPA's TSCA program has the capacity—people and resources—to resolve the risk to the program. The TSCA reform legislation requires EPA to report to Congress by December 2016 on its capacity to implement certain aspects of the legislation, including carrying out chemical risk evaluations and issuing rules regulating specific chemicals. In January 2017, EPA issued a report in response to this deadline. The report estimates the costs of carrying out risk evaluations under the TSCA reform legislation and discusses actions underway or planned for increasing EPA's capacity to carry out these evaluations. The report does not, however, contain estimates of EPA's capacity for carrying out risk evaluations or promulgating associated rules. We have previously reported that EPA has found many provisions of TSCA cumbersome and time consuming to implement. It is currently unclear if EPA has the people and resources to implement the new law. We will continue to monitor the program to determine if progress is made and the criteria for capacity are met.

Action Plan

EPA continues to partially meet the criteria for having an action plan. As we reported in 2015, EPA has increased its efforts to obtain chemical toxicity and exposure data, initiate chemical risk assessments, and review certain new uses of chemicals, but it is too early to tell whether these actions will reduce chemical risks. With new TSCA authority, 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 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.

Monitoring

As in 2015, EPA has not met the criteria for monitoring because it is too soon to determine whether EPA's approach to managing chemicals within the new TSCA authorities will position the agency to achieve its goal of ensuring the safety of chemicals. We will continue to monitor the TSCA program as the agency implements this important legislation.

Demonstrated Progress

As in 2015, EPA has not met the criteria for demonstrating progress, although it has recently begun implementing corrective measures to resolve this high-risk area. For example, the first TSCA reform reporting deadline directed EPA to publish in the Federal Register a list of mercury compounds that will be prohibited from export, not later than 90 days after the date of enactment. That reporting deadline was September 20, 2016; on August 26, 2016, EPA published a list of the mercury compounds that will be prohibited from export effective January 1, 2020. TSCA reform actions required by December 19, 2016, included the following topics and actions: (1) Risk Evaluations: EPA must ensure that risk evaluations are being conducted on 10 chemical substances drawn from the 2014 TSCA Work Plan; (2) Small Business: EPA must review, and potentially revise, its definitions of small businesses for reporting purposes after consulting with the Small Business Administration; and (3) Congressional Report: EPA must submit a report to Congress regarding the agency's capacity to carry out risk evaluations and associated actions.

According to EPA, the promulgation of these rules will better position the agency to increase the rate at which chemicals are evaluated for human and environmental health and safety. As of December 19, 2016, EPA had taken steps to respond to the December deadlines for risk evaluations and small business. Specifically, EPA has announced the first 10 chemicals it will evaluate for potential risks to human health and the environment and published a Federal Register notice on Standards for Small Manufacturers and Processors. In January 2017, EPA took action in response to December deadline 3 by issuing a report: Initial Report to Congress on the EPA's Capacity to Implement Certain Provisions of the Frank R. Lautenberg Chemical Safety for the 21st Century Act. We will continue to monitor EPA as it implements this important piece of chemical legislation and determine if it is satisfying all the criteria for removal from the High-Risk List.

Benefits Achieved by Implementing Our Recommendations

EPA has taken actions to address many of our priority recommendations on chemicals management and Congress has used our work to support legislative deliberations. For example, EPA's efforts, such as developing the IRIS Multi-Year Agenda, addressed a number of our recommendations related to the IRIS program. EPA identified and evaluated demand for the number of IRIS toxicity assessments and resources required to meet users' needs, which was a priority recommendation we made in 2013 and closed recently based on EPA's actions.

Our work has also supported deliberations by Congress about TSCA and about strengthening EPA's ability to regulate chemicals. For example, as far back as 1994, we reported that Congress should consider setting specific deadlines for reviewing existing chemicals, which the new TSCA legislation would address because it requires EPA to establish a chemical prioritization process, and to initiate risk evaluations of high priority chemicals, among other issues.

Our work since then has addressed a variety of chemical management policy matters for Congress. For example, in 2009, we testified that EPA does not routinely assess the risks of chemicals in commerce, and in 2013, we testified about possible statutory changes to TSCA to give EPA additional authorities to obtain information, and shift more of the burden to chemical companies for demonstrating the safety of their chemicals. Finally, in 2016, Congress passed the Frank R. Lautenberg Chemical Safety for the 21st Century Act, which we found addresses key challenge areas we've identified previously.

GAO Contact

For additional information about this high-risk area, contact Alfredo Gómez at (202) 512-3841 or gomezj@gao.gov.

Related GAO Products

Chemicals Management: Observations on Human Health Risk Assessment and Management by Selected Foreign Programs. GAO-16-111R. Washington, D.C.: October 9, 2015.

Chemical Assessments: Agencies Coordinate Activities, but Additional Action Could Enhance Efforts. GAO-14-763. Washington, D.C.: September 29, 2014.

Chemical Regulation: Observations on the Toxic Substances Control Act and EPA Implementation. GAO-13-696T. Washington, D.C.: June 13, 2013.

Chemical Assessments: An Agencywide Strategy May Help EPA Address Unmet Needs for Integrated Risk Information System Assessments. GAO-13-369. Washington, D.C.: May 10, 2013.

Toxic Substances: EPA Has Increased Efforts to Assess and Control Chemicals but Could Strengthen Its Approach. GAO-13-249. Washington, D.C.: March 22, 2013.

Chemical Assessments: Challenges Remain with EPA's Integrated Risk Information System Program. GAO-12-42. Washington, D.C.: December 9, 2011.

Chemical Assessments: Low Productivity and New Interagency Review Process Limit the Usefulness and Credibility of EPA's Integrated Risk Information System. GAO-08-440. Washington D.C: March 7, 2008.

Mitigating Gaps in Weather Satellite Data

Why Area Is High Risk

The two federal agencies responsible for managing weather satellites, the Department of Commerce's National Oceanic and Atmospheric Administration (NOAA) and the Department of Defense (DOD), are in different stages in their efforts to ensure continued weather satellite coverage in their respective satellite orbits. In recognition of NOAA's significant progress, we have narrowed the scope of this high-risk area to remove the segment on NOAA's geostationary weather satellites. At the same time, we are expanding this high-risk area to include a segment on DOD's polar-orbiting weather satellites because the agency has been slow to replace aging satellites and, as a result, is at risk of a gap in weather satellite data in the early morning orbit. We did not include a segment on DOD weather satellites in our prior high-risk update because the department was not, at that time, facing an imminent satellite data gap.[1]

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 currently planning or executing major satellite acquisition programs to replace existing polar and geostationary satellite systems that are nearing the end of, or beyond, their expected life spans. Specifically, NOAA is responsible for

[1]In our February 2013 high-risk update, we noted that DOD had two weather satellites that it planned to launch. These satellites, called the Defense Meteorological Satellite Program (DMSP)-19 and 20, were planned for launch in 2014 and 2020. By our February 2015 high-risk update, DOD had successfully launched DMSP-19 and was still planning to launch DMSP-20. However, the continuity of DOD satellite data has become less assured since that time. The DMSP-19 satellite stopped providing data in February 2016. Further, DOD halted its plans to launch DMSP-20 after the department did not certify that it would launch the satellite by the end of calendar year 2016. DOD is now relying on an older satellite for data in that early morning orbit.

the polar satellite program that crosses the equator in the afternoon and for the geostationary satellite program, while DOD is responsible for the polar satellite program that crosses the equator in the early morning orbit. However, these programs have troubled legacies of cost increases, missed milestones, technical problems, and management challenges that have reduced functionality and delayed launch dates. As a result, the continuity of weather satellite data is at risk.

NOAA officials acknowledge that there is a risk of a gap in polar satellite data in the afternoon orbit, between the time that the current polar satellite is expected to reach the end of its life and the time when the next satellite is expected to be in orbit and operational. This gap could span up to a year or more, depending on how long the current satellite lasts and whether there are any delays in launching or operating the new one.[2] In addition, there is a risk of a gap in polar satellite data in the early morning orbit because DOD has not yet replaced satellites that are nearing the end of their life spans. While NOAA does not anticipate gaps in geostationary satellite observations, such a gap could occur if the satellites currently in orbit do not last as long as anticipated or if the major satellite acquisition currently underway encounters schedule delays.

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. Given the criticality of satellite data to weather forecasts, the likelihood of significant gaps, and the potential impact of such gaps on the health and safety of the U.S. population and economy, we concluded that the

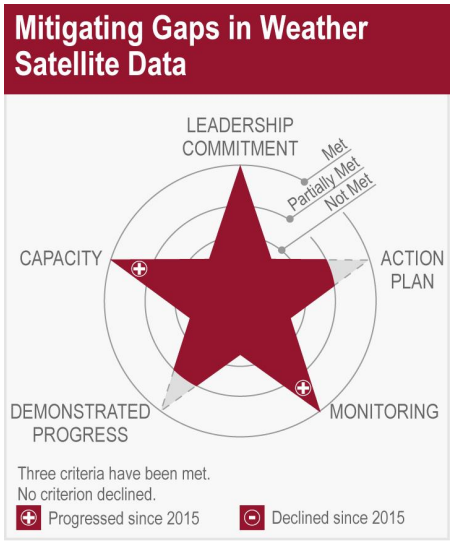
[2]In our February 2013 high-risk update, we reported that—instead of the 18- to 24-month gap that NOAA anticipated—the gap could span from 17 to 53 months or more, depending on how long the current satellites last and whether there are any delays in launching or operating the new one. In October 2013, NOAA officials reported that the gap could be as short as 3 months because of the relatively strong performance of the current satellite and their plan to reduce the expected length of the next satellite's on-orbit checkout period. However, we noted that the gap could occur sooner and last longer than NOAA anticipated if the launch date was delayed, the on-orbit checkout period took longer than anticipated, or space debris caused the current satellite to fail early. In October 2016, NOAA determined that it would need to delay the launch of the next satellite by 4 to 6 months to address issues in the development of the ground system. As a result, the potential for a gap remains.

potential gap in weather satellite data is a high-risk area and added it to the High-Risk List in 2013. It remained on the High-Risk List in 2015.

For this high-risk update, we are both narrowing and expanding the high-risk area. We are narrowing this high-risk area to remove NOAA's geostationary weather satellite program because the agency improved its gap mitigation contingency plans and made substantial progress in ensuring it had the capacity to integrate and test the next satellite, called the Geostationary Operational Environmental Satellite-R (GOES-R) series. Moreover, the agency successfully launched this satellite in November 2016 and is now better able to ensure continuous satellite coverage.

In contrast, we are expanding the high-risk area to include a segment on DOD's polar-orbiting satellite program, which provides weather observations in the early morning orbit. The department has been slow to establish plans for its follow-on satellite program and has made little progress in determining how it will meet selected weather satellite requirements in the early morning orbit. Moreover, DOD is currently relying on an older satellite that is well past its expected life span. As a result, there is a real risk of a weather satellite data gap in the early morning orbit. Such a gap could negatively affect military operations that depend on weather data.

What GAO Found



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

The two federal agencies responsible for managing weather satellites, NOAA and DOD, are in different stages in their efforts to ensure continued weather satellite coverage in their respective satellite orbits. NOAA's efforts to strengthen mitigation planning for its polar-orbiting satellites in the afternoon orbit have resulted in it meeting three of the five criteria for removal from the high-risk area: leadership commitment, capacity, and monitoring progress. Specifically, NOAA has demonstrated leadership commitment in mitigating data gaps on its polar-orbiting weather satellites by establishing gap mitigation action plans, improving its computing capacity, and monitoring progress in implementing multiple mitigation activities. However, the agency has not yet addressed key shortfalls in its gap mitigation plans and several mitigation projects are not yet complete. Moreover, the agency recently decided to delay the launch date of the next polar-orbiting satellite due to problems in development. These issues increase the likelihood of a data gap in the afternoon orbit. The agency's efforts to further improve its gap mitigation plans, complete gap mitigation projects, and successfully launch the next polar satellite will help ensure that it is in a good position to mitigate the possibility of gaps in satellite data.

Regarding its geostationary satellites, NOAA's efforts to strengthen mitigation planning have resulted in it meeting all five of the criteria for

removal from the high-risk area. Specifically, NOAA has demonstrated leadership commitment in acquiring the next geostationary satellite, developing and implementing mitigation plans, and monitoring the health of the satellite constellation. In addition, NOAA and the National Aeronautics and Space Administration (NASA) successfully launched the latest geostationary weather satellite in November 2016, a step which improved the agency's ability to ensure robust satellite coverage. In recognition of the agency's significant progress, we have narrowed the scope of this high-risk area to remove the segment on NOAA's geostationary satellites.

On the other hand, DOD has been slow to establish a new satellite program, selected high-priority capabilities are not addressed by the department's planned program, and problems with existing satellites have increased the risk of a gap in satellite data in the early morning orbit. In October 2016, over 6 years after the department was directed to establish a program to launch new satellites in the early morning orbit, DOD established a plan for its Weather Satellite Follow-on—Microwave program. The department plans to launch the first operational satellite under this program in 2022. However, this program does not address two high-priority capabilities—cloud characterization and area-specific weather imagery—and the department has not yet determined how it will provide those capabilities. Further, DOD's primary satellite in the early morning orbit failed in February 2016, and the department is now using an older satellite that is well past its expected life span. Until the department launches its next satellite and establishes a plan to provide the two high-priority capabilities, it faces a significant risk of a gap in satellite data should the existing operational satellite fail. As a result of DOD's limited progress in developing and implementing a plan to fulfill its weather satellite requirements, we are expanding this high-risk area to include a segment on DOD's progress in addressing the need for satellite coverage in the early morning orbit.

Over the last 4 years, congressional committees have held multiple hearings to address this high-risk area. Examples include:

- Subcommittees of the House Science, Space, and Technology Committee have held multiple hearings to provide oversight of major satellite acquisitions and the risk of gaps in satellite coverage (September 2013, February 2015, December 2015, July 2016) and on private sector weather forecasting (May 2015, June 2016).

- In March 2016, the Subcommittee on Commerce, Justice, Science, and Related Agencies of the Senate Appropriations Committee held a hearing on the President's fiscal year 2017 budget proposal that included a discussion of current and future satellite programs.
- In July 2016, the House Science, Space, and Technology Committee's Subcommittee on Environment held a hearing to provide oversight of DOD's efforts to plan a new satellite acquisition and address the potential for gaps in satellite coverage.

Also over the last 4 years, Congress has worked on legislation to address this high-risk area. Examples include:

- The Weather Research and Forecasting Innovation Act of 2015 was introduced as a bill in the House of Representatives to advance programs and activities related to improving weather warnings and forecasts—including analysis of potential observing system gaps—and clarifying NOAA's ability to access commercial weather data and products.[3]
- Congress appropriated funds for satellite data gap mitigation activities through the Disaster Relief Appropriations Act, 2013.[4]

What Remains to Be Done

NOAA's Weather Satellites

NOAA has made considerable progress over the last 2 years, particularly in mitigating the risk of a geostationary satellite data gap and in improving its capacity to mitigate polar-orbiting satellite data gaps. NOAA demonstrated leadership commitment, improved its high-performance computing capacity, developed gap mitigation plans, and successfully launched a geostationary weather satellite in November 2016. As a result, we are narrowing our high-risk area to remove the segment on NOAA's geostationary weather satellites. However, NOAA's polar-orbiting weather

[3]See H.R.1561 - Weather Research and Forecasting Innovation Act of 2015 — 114th Congress (2015-2016). The House committee report includes an extensive discussion related to commercially provided weather data. This bill passed the in the House and Senate, but the Senate made changes and sent it back to the House on December 2, 2016.

[4]See supplemental enacted to provide assistance for relief of Hurricane Sandy: Public Law 113-2, Disaster Relief Appropriations, containing Division A: Disaster Relief Appropriations Act, 2013 and Division B: Sandy Recovery Improvement Act of 2013.

satellites remain on the High-Risk List because more remains to be done before the remaining two criteria can be met. NOAA needs to address the shortfalls we identified in its gap mitigation plans and to demonstrate progress in key gap mitigation projects. Specifically, NOAA needs to

- address residual shortfalls in its mitigation plan, including providing key information about the cost and effects of the mitigation options, and establishing when the testing of selected options would be completed (this is a recommendation that we identified as a priority recommendation to the Secretary of Commerce); and
- demonstrate progress by completing the remaining gap mitigation projects identified in the polar satellite gap mitigation plan, including addressing the technical challenges that delayed the scheduled launch date for the next satellite, deciding when the next satellite will be launched, and acting to ensure a timely and successful launch.

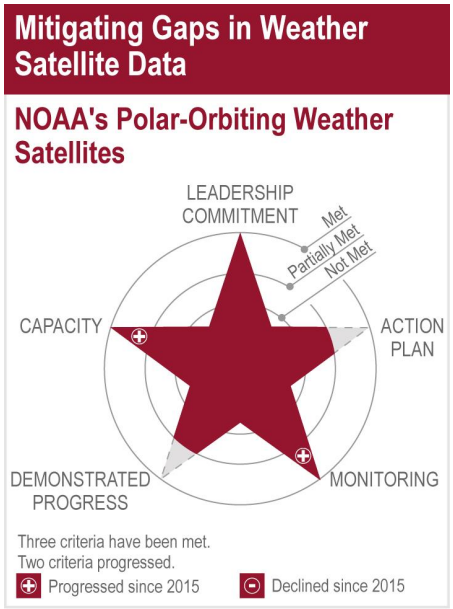
DOD's Polar-Orbiting Weather Satellites

DOD has made limited progress in its efforts to replace aging satellites and is now at risk of a gap in weather satellite data in the early morning orbit. As a result, we are expanding this high-risk area to include DOD's polar-orbiting weather satellites. The department needs to

- demonstrate progress on its next generation of weather satellites, called the Weather System Follow-on—Microwave (WSF-M) program, to address the risk of a gap in the early morning orbit; and
- establish and implement plans to mitigate the risk of a gap in the high-priority capabilities that are not included in WSF-M .

Additional Details on What GAO Found

NOAA's Polar-Orbiting Weather Satellites



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

Leadership Commitment

NOAA has met the criterion of demonstrating a strong leadership commitment to mitigating potential gaps in polar-orbiting satellite data. In April 2015, NOAA issued an updated polar satellite gap mitigation plan which identifies the specific technical, programmatic, and management steps the agency is taking to ensure that satellite mitigation options are viable. Moreover, NOAA continues to oversee the implementation of 35 gap mitigation projects, including efforts to assimilate data from new sources into weather models and to explore how manned and unmanned aircraft observations could increase the accuracy of numerical weather predictions for high-impact weather events. In addition, NOAA executives oversee the acquisition of the next generation of polar-orbiting satellites through monthly briefings on the cost, schedule, and technical risks affecting the satellites' development and planned launch dates.

Capacity

NOAA has met the criterion for improving its capacity to address the risk of a satellite data gap, which is an increase over its prior rating. In December 2014, we reported that delays in improving the agency's high-performance computing capacity resulted in reduced scope or delayed work on other critical mitigation projects, and recommended that NOAA investigate ways to prioritize the gap mitigation projects with the greatest potential benefit to weather forecasting. NOAA agreed with this recommendation, implemented it, and has since completed efforts to improve its high-performance computing capacity. Specifically, in May and December 2015, the agency completed upgrading its high-performance computers that support research and operations. These upgrades allowed the agency to move forward on multiple other mitigation activities, including experimenting with other data sources and assimilating these data into its weather models.

Action Plan

NOAA has partially met the criterion for having a plan to address the risk of a polar satellite data gap. In April 2015, NOAA issued an updated satellite mitigation plan, which includes several improvements over its prior plan. For example, in response to a recommendation we made in December 2014 to address shortfalls in the mitigation plan, NOAA's latest plan includes an expanded list of mitigation projects and identifies opportunities for accelerating the availability of satellite products after the next satellite is launched. However, the agency has not yet addressed residual shortfalls in its mitigation plan, including providing key information about the cost and impact of the mitigation options, and establishing when the testing of selected options would be completed. Until NOAA fully addresses the shortfalls in its gap mitigation plan, it may not be sufficiently prepared to mitigate potential gaps in polar satellite coverage.

Monitoring

NOAA has met the criterion for monitoring progress on its gap mitigation activities, which is an increase over its prior rating. In December 2014, we reported that NOAA's oversight of its many gap mitigation projects was not consistent or comprehensive. For example, only one of three NOAA organizations had briefed management on a monthly basis on the status of its mitigation projects and the agency had not yet reported progress on nine mitigation activities outlined in its plan. We recommended that NOAA

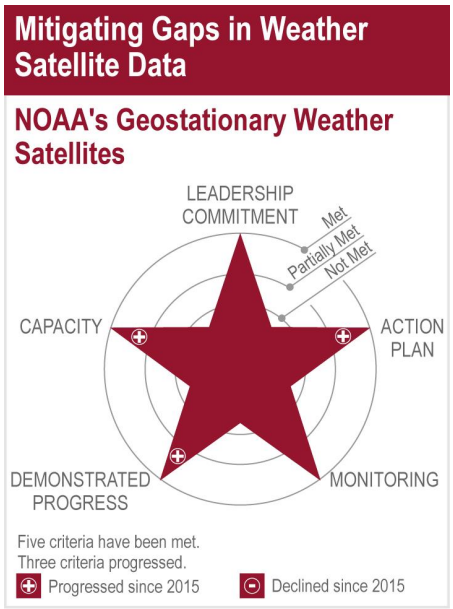
ensure that the relevant entities provide regular progress updates on all mitigation projects and activities. NOAA agreed and implemented this recommendation. All three responsible NOAA organizations are now regularly briefing management on all active gap mitigation projects.

Demonstrated Progress

NOAA has partially met the criterion for demonstrating progress in mitigating the risk of a gap in polar-orbiting satellite data. NOAA has identified 35 different gap mitigation projects and is making progress in implementing many of them. These projects fall into three general categories: (1) understanding the likelihood and impact of a gap, (2) reducing the likelihood of a gap, and (3) reducing the impact of a gap. As of May 2016, 16 projects had been completed; 18 were ongoing; and 1 was planned for the future. However, one of the most important steps in reducing the likelihood of a gap—keeping the launch of the next polar satellite on schedule—has had problems. While NOAA targeted a March 2017 launch date for the next polar-orbiting satellite, agency officials recently decided to delay the launch by 4 to 6 months due to problems in developing the ground system and a critical instrument on the spacecraft. This launch delay exacerbates the probability of a gap in satellite data since the current operational satellite is now past its expected 5-year life span and one key instrument on that satellite has been experiencing technical issues.

NOAA acknowledged that if this instrument fails before the next satellite is launched and operational, it would result in degraded weather forecasts, exposing the nation to a 15 percent chance of missing an extreme weather event forecast. While NOAA has made progress on its many mitigation projects, the agency acknowledges that no steps will completely mitigate a sudden failure of the primary operational polar-orbiting satellite. Until NOAA demonstrates that it is making swift and effective progress in mitigating potential near-term gaps in polar satellite data, there will be a growing risk that degraded forecasts and warnings will negatively impact the U.S. population and economy.

NOAA's Geostationary Weather Satellites



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

Leadership Commitment

NOAA has met the criterion of demonstrating strong leadership commitment to mitigating potential gaps in geostationary satellite data by revising and improving its geostationary satellite contingency plans, updating an assessment of the viability of the program schedule leading up to the launch date, and taking steps to ensure that the GOES-R satellite was successfully launched in November 2016.

Capacity

NOAA has met the criterion for ensuring it has the capacity to address the risk of a gap in backup coverage, which is an increase over its prior rating. Over the past several years, the agency has demonstrated its ability to mitigate operational satellite outages by monitoring the health of the satellites and by moving a backup satellite into operation when needed. Moreover, 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

from March 2016 to November 2016 to allow time to complete critical integration and testing activities.

Action Plan

NOAA has met the criterion for having an action plan to address the risk of a geostationary satellite data gap, which is an increase over its prior rating. 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. 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. The new plan includes information on steps planned or underway to mitigate potential launch delays, the potential impact of failure scenarios in the plan, and the minimum performance levels expected under such scenarios.

Monitoring

NOAA has met the criterion for monitoring progress in addressing its risks. Officials responsible for satellite operations actively monitor the health of the satellite constellation and are prepared to implement contingency operations if they are warranted. In addition, GOES-R program officials actively monitored and analyzed the program schedule in order to minimize changes to the launch date. Program officials also regularly report to senior managers on progress and risks.

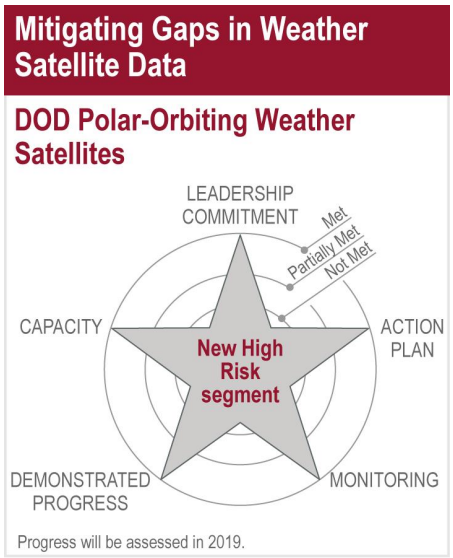
Demonstrated Progress

NOAA has met the criterion for demonstrating progress in mitigating risks, which is an increase over its prior rating. In September 2013, we reported that the agency had weaknesses in its schedule management practices on its core ground system and spacecraft, and we made recommendations to address those weaknesses. The weaknesses pertained to the sequencing of all activities, ensuring there were adequate resources for the activities, and conducting a schedule risk analysis. NOAA agreed with the recommendations and the GOES-R program made improvements to its schedule management practices. In early 2016, the program 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 in

the ground schedule that the results of a schedule risk analysis were used in calculating the duration of its activities.

In addition, the GOES-R program made significant progress in developing and testing the GOES-R satellite and successfully launched it in November 2016. The agency now has a robust constellation of operational satellites and backup satellites in orbit. As a result, the agency has made significant progress in addressing the risk of a gap in geostationary satellite data coverage.

DOD's Polar-Orbiting Weather Satellites



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

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. However, the department was slow to develop plans to replace its existing satellites that provide this coverage. 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 the WSF-M program. Through this program, the department plans to launch a demonstration satellite in 2017 and to launch its first operational satellite 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 characterization and area-specific weather imagery) due to an incorrect assumption about the capabilities that would be provided by international partners. WSF-M does not include these two highest-priority capabilities and the department has not yet determined its long-term plans for providing them.

Due to DOD's delay in establishing plans for its next generation of weather satellites, there is now a significant risk of a satellite data gap in the early morning orbit. The last satellite that the department launched, 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 was launched in 2006 and 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. As a result, the department will need to continue to rely on the older DMSP-17 satellite until (1) its new satellite becomes operational in 2022, and (2) it determines how it will address the high priority capabilities that the new satellite will not provide. 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 that lasts for years.

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 WSF-M could help mitigate a potential gap by providing some data. However, these proposed solutions may not be available in time or be comprehensive enough to avoid near-term coverage gaps. Such gaps could negatively affect operations that depend on weather data, such as long-range strike capabilities and aerial refueling.

Over the next 2 years, we will assess DOD's progress in addressing polar-orbiting weather satellites against the high-risk criteria and will report this information as appropriate.

Benefits Achieved by Implementing Our Recommendations

Examples of benefits achieved over the last 4 fiscal years by implementing our recommendations include the following actions by NOAA:

- Improving its gap mitigation/contingency plans for its polar-orbiting weather satellites.
- Prioritizing its gap mitigation efforts supporting its polar-orbiting weather satellites.
- Improving its oversight of its gap mitigation projects for its polar-orbiting weather satellites.
- Improving its schedule management practices on its geostationary satellite program.
- Improving its outreach to key external users of geostationary satellite data.
- Addressing shortfalls in its geostationary gap mitigation plans.

In December 2014, we recommended that NOAA revise its polar satellite gap mitigation plan (also called a contingency plan) to address residual shortfalls we identified, including providing an assessment of alternatives based on their costs and potential impacts, establishing a schedule with meaningful timelines, and defining completion dates for testing and validating the alternatives.[5] In May 2016, we reported that NOAA updated its plan in April 2015 and addressed several of the identified shortfalls.[6] However, we also reported that the plan does not include all elements needed to fully implement our recommendation, such as a schedule with meaningful timelines and linkages among mitigation activities. NOAA plans to update its polar satellite contingency plan to address these residual shortfalls in early 2017.

[5]GAO, *Polar Weather Satellites: NOAA Needs To Prepare for Near-term Data Gaps [Reissued on January 16, 2015]*, GAO-15-47 (Washington, D.C.: Dec. 16, 2014).

[6]GAO, *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).

GAO Contact

For additional information about this high-risk area, contact David Powner at (202) 512-9286, or pownerd@gao.gov.

Related GAO Products

Environmental Satellites: NOAA Needs to Ensure Its Timelines Are Accurate, Clear, and Fully Documented.GAO-16-767. Washington, D.C.: September 8, 2016.

Polar Satellites: NOAA Faces Challenges and Uncertainties that Could Affect the Availability of Critical Weather Data. GAO-16-773T. Washington, D.C.: July 7, 2016.

Defense Weather Satellites: DOD Faces Acquisition Challenges for Addressing Capability Needs. GAO-16-769T. Washington, D.C.: July 7, 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.

Defense Weather Satellites: Analysis of Alternatives Is Useful for Certain Capabilities, but Ineffective Coordination Limited Assessment of Two Critical Capabilities. GAO-16-252R. Washington, D.C.: March 10, 2016.

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Environmental Satellites: Improvements Needed in NOAA's Mitigation Strategies as It Prepares for Potential Satellite Coverage Gaps. GAO-15-386T. Washington, D.C.: February 12, 2015.

Polar Weather Satellites: NOAA Needs To Prepare for Near-term Data Gaps [Reissued on January 16, 2015]. GAO-15-47. Washington, D.C.: December 16, 2014.

Geostationary Weather Satellites: Launch Date Nears, but Remaining Schedule Risks Need to be Addressed. GAO-15-60. Washington, D.C.: December 16, 2014.

DOE's Contract Management for the National Nuclear Security Administration and Office of Environmental Management

Why Area Is High Risk

Since our high-risk report in February 2015, the Department of Energy (DOE) continued to meet the leadership commitment criterion and to partially meet the criterion for having a corrective action plan. DOE has improved its monitoring of the effectiveness of corrective measures and now partially meets this criterion. DOE did not meet the criterion for having the capacity to resolve contract and project management problems, nor did DOE meet the criterion for demonstrating progress toward implementing measures to resolve high-risk areas.

DOE oversees a broad range of programs related to nuclear security, science, energy, and nuclear waste cleanup, among other areas. To support these missions, DOE has several offices, each of which oversees numerous programs that often design and construct large capital asset projects to meet the department's mission needs. DOE relies primarily on contractors to carry out its programs. It is the largest civilian contracting agency in the federal government, and spends approximately 90 percent of its fiscal year 2017 funding of more than $32 billion on contracts and large capital asset projects. We designated DOE's contract management—which has included both contract administration and project management—a high-risk area in 1990 because DOE's record of inadequate management and oversight of contractors has left the department vulnerable to fraud, waste, abuse, and mismanagement.

In January 2009, to recognize progress made at DOE's Office of Science, we narrowed the focus of DOE's high-risk designation to 2 DOE program elements—the Office of Environmental Management (EM) and the

National Nuclear Security Administration (NNSA). Together, these 2 elements accounted for almost 60 percent of DOE's annual budget. In February 2013, we further narrowed the focus of the high-risk designation to NNSA and EM's major contracts and projects—those with an estimated cost of $750 million or greater—to acknowledge progress made in managing nonmajor projects, those with an estimated cost below $750 million. We continue to monitor DOE's management of nonmajor projects to ensure that progress in this area is sustained.

In our 2015 assessment, we found that, of the five criteria needed for removal from the High-Risk List, DOE satisfied one: leadership commitment. During the last 2 years, we again observed DOE's strong leadership commitment to addressing the high-risk area. The Secretary of Energy has taken several high-profile steps that demonstrate the department's commitment to improving project management—steps that have been embraced by senior leadership within the department. Similarly, we continued to observe progress as DOE developed and implemented corrective actions that aim to identify and address root causes of persistent project management challenges and implement solutions. Since our 2015 assessment, we also observed progress in DOE's monitoring of the effectiveness and sustainability of corrective measures. As in previous years, however, EM and NNSA struggled to ensure they have the capacity (both people and resources) to mitigate risks. They have also demonstrated limited progress in contract management, particularly in the area of financial management, and have struggled to stay within cost and schedule estimates for some major projects.

What GAO Found

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

DOE has made progress in its contract and project management. DOE continued to meet the criterion for demonstrating a strong commitment and top leadership support for improving project management. The Secretary of Energy issued two memorandums, in December 2014 and June 2015, that lay out a series of changes to policies and procedures to improve project management. These changes were included in DOE's revised project management order, DOE Order 413.3B, issued in May 2016. As noted in the memorandums, some of these changes are in response to recommendations we made in prior years, such as requiring that projects develop cost estimates and analyses of alternatives according to our best practices.

According to DOE officials, the two memorandums serve as DOE's corrective action plan, but we note that this plan does not appear to be comprehensive and, as such, DOE continues to partially meet this criterion. Specifically, DOE's corrective action plan does not address 1) acquisition planning for its major contracts—a phase during which critical contract decisions are made that have significant implications for the cost and overall success of an acquisition; 2) the quality of enterprise-wide cost information available to DOE managers and key stakeholders; 3)

DOE's need for a program management policy; and 4) how DOE's new requirements will be applied to the department's major legacy projects, which receive billions of dollars in annual funding and often present the most intractable project management challenges.

DOE also made significant efforts to improve its performance in monitoring and independently validating the effectiveness and sustainability of corrective measures and now partially meets our monitoring criterion. For example, the Secretary improved the department's senior-level monitoring capability. These efforts are important and can substantively improve how DOE oversees and executes its major projects and programs, but additional time is needed for us to assess how effectively these recent monitoring improvements will validate the sustainability of corrective measures. We have not yet evaluated the operations of the newly created Project Management Risk Committee (PMRC). In addition, DOE's new oversight and monitoring efforts are not comprehensive, as certain activities within EM are not subject to review by the PMRC, even though together they cost billions of dollars and last for numerous years. Finally, the effectiveness of DOE's monitoring of its contracts, projects, and programs depends upon the availability of reliable enterprise-wide cost information on which to base oversight activities.

DOE did not meet the criterion for having the capacity to mitigate risks with project and contract management. Since 2015, DOE has taken steps to improve capacity, such as increasing its number of contract specialists, but even with these recent steps, capacity challenges remain. The Secretary's December 2014 and June 2015 memorandums were generally silent on capacity issues. In several recently issued reports, we found capacity shortfalls in key contract management functions, including cost and schedule performance evaluation, as well as in oversight of major projects and programs. For example, in May 2015, we found that NNSA had not determined whether it has sufficient, qualified personnel to ensure it used information from contractor assurance systems (CAS) consistently, which include information on contractors' cost and schedule performance. In 2016, DOE issued a new Supplemental Directive on NNSA Site Governance requiring NNSA to develop training for NNSA organizations to help them implement the governance model that relied on information from CAS for oversight, but it is unclear whether this training has been developed and initiated. In November 2016, we found that DOE and NNSA had not established training programs, such as a career development program, for program managers. On December 14, 2016, the President signed the Program Management Improvement

Accountability Act. The act, among other things, requires that each agency head appoint a Program Management Improvement Officer, who must develop a strategy for enhancing the role of program managers within the agency that includes enhanced training and educational opportunities for program managers. Finally, in July 2016, we found problems with DOE's effort to evaluate the environment for raising concerns without fear of reprisal.

As noted earlier, DOE implemented a series of changes to policies and procedures to improve project management, but the department does not yet meet the criterion for demonstrating progress. DOE's recent reforms are in the early stages, and more time is needed to assess the effectiveness of corrective measures and associated progress, especially with respect to ongoing major projects. DOE has taken significant actions regarding two of its six ongoing major projects but continues to encounter significant project management challenges, cost increases, and schedule delays on others. In addition, even though we removed nonmajor projects from our High-Risk List, we continue to monitor how DOE manages these projects to ensure that DOE sustains progress in this area. Finally, DOE's recent reforms do not address contract management, and our work since the last high-risk report has identified several significant challenges with DOE contract management on which DOE has taken little action. Specifically, in May 2015, we found that NNSA had not established policies or guidance specific to using information from CAS to evaluate management and operations (M&O) contractor performance.

Congress has taken several actions related to this high-risk area. For example, the fiscal year 2016 National Defense Authorization Act (NDAA) was enacted with several provisions on the basis of our recommendations, including modifications to requirements for cost-benefit analyses for competing management and operating contracts and additional requirements related to the oversight of the Hanford Waste Treatment and Immobilization Plant (WTP). In addition, the Senate Armed Services Committee report accompanying the fiscal year 2017 NDAA included requirements for DOE relevant to many issues highlighted in our high-risk report, including specific provisions for the Mixed Oxide (MOX) Fuel Fabrication Facility, the Chemistry and Metallurgy Research Replacement (CMRR) project, and the WTP. The Senate Armed Services Committee also held hearings in 2015 and 2016 on challenges identified in this high-risk area. We testified on our observations on DOE's management challenges and the steps taken to address them. The House Energy and Commerce Committee also held a hearing in 2015 in

which we testified on the actions needed to improve DOE and NNSA oversight of management and operating contracts.

What Remains to Be Done

DOE continues to face persistent problems with design and construction of nuclear facilities and with program and contract management. DOE's removal from the High-Risk List requires meeting all five of our long-established criteria. DOE must sustain the leadership commitment it has already demonstrated to address its project and contract management challenges. For the criteria that DOE has partially or not met, it should also address the following:

Capacity: DOE will need to commit sufficient people and resources to resolve its project, program, and contract management problems. DOE must develop a strategy to address these needs. We note that the initiatives DOE established in 2015, some of which we described in our last high-risk report, are not yet complete. NNSA's issuance of a new Supplemental Directive on NNSA Site Governance is a good first step toward addressing the recommendations we made with regard to the agency's capacity to conduct oversight activities using information from CAS. Specifically, the Supplemental Directive includes requirements for NNSA's Office of Safety, Infrastructure and Operations to develop training for NNSA organizations to assist their implementation of the site governance model and to annually review and update the training as needed to ensure continuous improvement. However, NNSA has not yet established comprehensive guidance, beyond the general framework described in the new Supplemental Directive, to consistently implement the described governance model across the nuclear security enterprise, and this is needed to ensure that the training developed is aligned with the specifics of that governance model.

In addition, significant additional action is required by both EM and NNSA to fully address our recommendations. DOE must implement program management policies and develop a strategy for enhancing the role of program managers, including for training, as required by the Program Management Improvement Accountability Act, and address our and others' recommendations on whistleblower protection to ensure a safety-conscious work environment where staff are encouraged to use their expertise, identify risks, and proactively mitigate them without fear of workplace retaliation.

Action Plan: DOE will need to ensure that its corrective action plan is comprehensive and addresses all root causes—including all front-end planning challenges and contract and program management, as well as capacity issues. To be considered a corrective action plan, DOE's plan must also set milestones and timelines, assign responsibilities for implementing and completing corrective measures, and identify mechanisms to monitor progress and provide measurable outcomes. DOE must also ensure the corrective action plan includes steps necessary to implement solutions we and others have recommended.

The plan should be a living document that can reflect progress made, reconcile past plans and root cause analyses, reflect improved understanding of underlying causes and corrective measures, and identify what challenges remain. DOE's corrective action plan should also address acquisition planning for its major contracts, the quality of enterprise-wide cost information, and how DOE's new requirements will be applied to major legacy projects. Finally, we will monitor how DOE applies—enterprise-wide—the standards, policies and guidelines for program management that are to be established at federal agencies in response to the Program Management Improvement Accountability Act.

Monitoring: DOE will need to continue to monitor and independently validate the effectiveness and sustainability of its corrective measures, particularly for major projects. Meeting the monitoring criterion will require a comprehensive corrective action plan—as described above—against which progress can be monitored. DOE has created the PMRC to track progress of projects across the agency, but it is too early to assess its effectiveness, especially on major projects. As a next step, DOE should create a framework in which the PMRC and programs use existing and other tools as needed to track progress against a comprehensive corrective action plan and regularly update the plan with progress and any newly identified root causes based on the PMRC's validation of completion.

DOE should also ensure it has the reliable, enterprise-wide cost information that is needed to effectively monitor projects and programs. DOE will also need to ensure that EM's operations activities that are currently outside of project management requirements are included in this framework and are subject to comparable monitoring and oversight by the PMRC or another body.

Demonstrated Progress: DOE will need to demonstrate progress in implementing corrective measures, especially measures intended to

improve the performance of major projects and contracts. For example, for projects, DOE must continue to show improvements on meeting cost and schedule targets and a commitment to applying new requirements to all of its major projects. DOE should also continue to monitor progress and apply corrective measures to nonmajor projects. For contracts, once DOE's corrective action plan addresses contract management, DOE must apply these measures to address its longstanding contract management problems. More specifically, DOE should address some of the problems we found, such as developing a contract management framework addressing the use of CAS so that DOE staff have the ability to evaluate contractor performance.

Additional Details on What GAO Found

Leadership Commitment

The department continued to meet the criterion for demonstrating a strong commitment and top leadership support for improving project management in EM and NNSA. The Secretary of Energy issued two memorandums, in December 2014 and June 2015, that lay out a series of changes to policies and procedures to improve project management. The Secretary's changes were included in DOE's revised project management order, DOE Order 413.3B, issued in May 2016. As noted in the memorandums, some of these changes are in response to recommendations we made in prior years, as shown in the following examples:

- DOE added requirements for program offices to conduct a root cause analysis if a major project is expected to exceed its approved cost or schedule.
- DOE added requirements for program offices to ensure that major projects' designs and technologies are sufficiently mature before contractors are allowed to begin construction.
- DOE added a requirement to its revised project management order for program offices to conduct analyses of alternatives consistent with industry best practices, independent of the contractor organization responsible for managing the construction or constructing a capital asset project.
- DOE added a requirement to its project management order that projects' cost estimates be developed, maintained, and documented in a manner consistent with industry best practices. DOE also

required that its cost estimating guidance and Acquisition Regulations be consistent with cost estimating best practices reflected in our Cost Estimating and Assessment Guide.[1]

DOE also enhanced project and contract oversight, improving senior managers' ability to identify and mitigate risks. For example, the Secretary strengthened the Energy Systems Acquisition Advisory Board (ESAAB) by changing it from an ad hoc body to an institutionalized board responsible for reviewing all capital asset projects with a total project cost of $100 million or more. DOE officials told us that the ESAAB met 16 times in fiscal year 2015 and 14 times in fiscal year 2016 after not meeting at all during fiscal years 2013 and 2014. The Secretary also created the PMRC, which includes senior DOE officials and is chaired by a new departmental position—the Chief Risk Officer (CRO). According to its charter, the committee meets biweekly to assess the risks of projects across the department, as well as to advise DOE senior leaders and the ESAAB on cost, schedule, and technical issues for projects.

We also continue to monitor nonmajor projects, and we note that the Secretary's December 2014 and June 2015 memorandums applied project management reforms to nonmajor projects previously not subject to such requirements. For example, DOE's new project management reforms require full upfront funding for projects costing $50 million or less—a reform that should help deliver such projects on time and within costs. Notably, DOE's performance in meeting cost and schedule milestones for nonmajor projects continues to improve, with nearly 95 percent of such projects meeting cost and schedule milestones over the last 3 years, according to DOE officials.

Capacity

DOE did not meet the criterion for having the capacity to mitigate risks with project and contract management. The department has long faced challenges in ensuring it has the right number of qualified individuals in crucial oversight areas. For example, we first noted capacity shortfalls in the department's contract management in our 1994 high-risk report. At that time, we noted that the department did not have the necessary staff expertise and information systems to monitor contractors. In our February 2015 high-risk report, we found that DOE did not meet this criterion and noted that an internal DOE review determined that the department had an

[1]GAO, *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*, GAO-09-3SP (Washington, D.C.: March 2009).

extremely low number of contract specialists. We noted in our 2015 high-risk report that DOE had established the Acquisition Fellows Program to recruit, acquire, develop, and retain contract specialists, and NNSA had signed an agreement with the U.S. Army Corps of Engineers (USACE) to supplement NNSA's capacity needs.

Since 2015, DOE has taken the following steps to improve capacity:

- DOE increased its number of contract specialists by 4, from 550 to 554. In November 2016, DOE officials told us that the department still faces shortfalls of contract specialists. They noted that there are statutory caps on the number of staff DOE can hire.
- The Acquisition Fellows Program's first class of 11 participants is expected to graduate in January 2017. DOE is analyzing lessons learned from the program's first cohort and determining ways to improve the program for the second cohort.
- NNSA officials stated that they continue to use USACE specialists because it helps NNSA manage its workload within the statutory workforce caps. DOE officials also stated that, on the basis of a USACE staffing model, NNSA recently increased the number of staff on certain major projects, in some cases more than doubling the number of staff responsible for project management activities.

Even with these recent steps, capacity challenges remain. The Secretary's December 2014 and June 2015 memorandums—which DOE has stated serve as its corrective action plan—were generally silent on capacity issues. The Secretary's memorandums required the department to create a Project Leadership Institute and both the ESAAB and PMRC are to evaluate, among other things, issues related to organization and staffing if such factors present a risk to a project; however, other capacity issues, such as those related to contract oversight, were not explicitly addressed.

In several recently issued reports, we found capacity shortfalls in key contract management functions, including cost and schedule performance evaluation, as well as in oversight of major projects and programs, as shown in the following examples:

- In May 2015, we found that NNSA had not determined whether it has sufficient, qualified personnel to ensure it used information from CAS consistently, which include information on contractors' cost and schedule performance. Federal field office officials raised concerns that staffing levels and the mix of staff skills may not be adequate to

use information from CAS to conduct appropriate oversight, potentially resulting in NNSA staff over relying on this information without the ability to ensure it is reliable.

We recommended, among other things, that DOE assess NNSA's staffing needs to determine whether it has sufficient, qualified personnel to conduct oversight activities using information from CAS. In 2016, DOE issued a new Supplemental Directive on NNSA Site Governance requiring NNSA to develop training for NNSA organizations to help them implement the governance model that relied on information from CAS for oversight, but it is unclear whether this training has been developed and initiated. Moreover, even though the supplemental directive does require some staffing assessment by project, field office, and functional managers, it appears that the scope of this staffing assessment may not address all aspects covered by the supplemental directive itself.

- In May 2015, we found that DOE faced persistent and significant technical and management challenges at its WTP at Hanford and, consequently, we recommended that DOE take steps to augment its capacity to oversee the contractor. External reviews found that technical challenges continue to affect the facilities needed to treat radioactive waste, and the extent of the challenges was beyond the capacity of DOE to monitor and prevent recurrence. Under the WTP construction contract, and as recommended by an external DOE advisory group, DOE can employ an owner's agent to help the department review the contractor's approach to design management and mitigate design challenges.

  We recommended that DOE enlist the services of another agency or external entity to serve as an owner's agent in reviewing and evaluating the WTP contractor's design and approach to mitigating design challenges. Congress also included a provision in the 2016 NDAA requiring DOE to enlist the services of an owner's agent who was to have certain oversight responsibilities independent of the contractor. In 2016, DOE instituted an owner's representative, but the responsibilities of the owner's representative do not include key elements of an owner's agent's responsibilities that we discussed in our report, such as independence and authority to oversee the contractor's approach to design management.

- In February 2016, we found that the B-61-12 Life Extension Program faced staff shortfalls. We reported that NNSA may need about two or three times more personnel in the federal program manager's office to ensure sufficient federal oversight. NNSA's federal program office employs about 20 people—8 federal FTEs and about 12 FTE-

equivalent contractors—to manage NNSA activities. In contrast, the Air Force office—the armed service office responsible for air-delivered weapons such as the B61—employs about 80 federal FTEs and contractors to manage comparable Air Force activities.

- In August 2016, we examined DOE's use of M&O contracts, and we found that one of the main reasons DOE uses this type of contract is because it is less burdensome to manage. According to DOE officials, such contracts are easier to manage with fewer DOE personnel because they are less frequently competed and have broadly written scopes of work, among other attributes. A 2013 study found that on average each NNSA M&O procurement employee was associated with about $287 million in contract spending, compared with a federal government average of $9 million per procurement employee.
- In November 2016, we found that DOE faced capacity challenges in program management. Program management can help ensure that a group of related projects and activities are managed in a coordinated way to obtain benefits not available from managing them individually. This approach helps federal agencies get what they need, at the right time, and at a reasonable price. We found that DOE and NNSA had not established training programs, such as a career development program, for program managers. In contrast, DOE has established a training program for project managers, which the department said is open to program managers. In the absence of a current DOE or NNSA training program for program managers, most of the NNSA program managers we interviewed did not have training related to program management. As a result, NNSA may have difficulty developing and maintaining a cadre of professional, effective, and capable program managers. We recommended that DOE establish a training program for program managers.

  Notably, a new federal law may help NNSA address some of its capacity challenges in program management. In December 2016, the President signed the Program Management Improvement Accountability Act. The act, among other things, requires the Director of the Office of Personnel Management, in consultation with the Director of the Office of Management and Budget, to issue regulations that identify key skills and competencies needed for program and project managers; establish a new job series, or update and improve an existing job series; and establish a new career path for program and project managers. The act also requires that each agency head appoint a Program Management Improvement Officer, who must develop a strategy for enhancing the role of program managers within

the agency that includes enhanced training and educational opportunities for program managers.

Having capacity—the right people and resources—is necessary to mitigate risks, but it is not always sufficient to ensure that risks are identified and appropriately addressed. Management must foster a culture where staff are encouraged to identify risks and use their expertise to proactively mitigate them. In July 2016, we examined DOE's effort to evaluate the environment for raising concerns without fear of reprisal. We found, among other things, that DOE used flawed and inconsistent methodologies to evaluate the environment for raising safety and other concerns and therefore cannot reliably judge its openness or ensure that appropriate action is taken in response to evaluation results. We noted that several factors may limit the use and effectiveness of mechanisms for contractor employees to raise concerns and seek whistleblower protections. We also found that DOE infrequently used its enforcement authority to hold contractors accountable for unlawful retaliation against whistleblowers, issuing just 2 violation notices in the past 20 years. Additionally, in 2013, DOE determined that it does not have the authority to enforce a key aspect of policies that prohibit retaliation for nuclear safety-related issues—despite having taken such enforcement actions previously.

We made several recommendations, including that DOE independently assess the environment for raising concerns, evaluate whether the whistleblower pilot program will mitigate challenges with the existing program, expedite time frames for clarifying regulations, and clarify policies to hold contractors accountable. DOE concurred with most of these recommendations. In August 2016, DOE issued a proposed rule to change DOE's nuclear safety rules to clarify the department's authority to assess civil penalties against certain contractors and subcontractors for violating the prohibition against retaliating against whistleblowers. The comment period closed in September 2016, and DOE is now considering the comments that were submitted.

In September 2016, DOE also updated its Order 221.1B that establishes the requirements and responsibilities for reporting fraud, waste, and abuse. The revised order provides some additional specificity to its Office of Inspector General's role in processing employee allegations and provides additional language intended to prohibit contractors from deterring or dissuading employees from reporting concerns.

Action Plan

DOE partially met the criterion for having a corrective action plan that defines root causes and identifies effective solutions. In issuing two memorandums to improve project management, the Secretary required project management reforms that—if fully implemented—will help ensure that future projects are not affected by the challenges that have persisted for DOE's major projects. According to DOE officials, the memorandums serve as DOE's corrective action plan to address the root causes DOE identified in its November 2014 report. DOE codified the memorandums' reforms in its revised project management order, DOE Order 413.3B, which includes instituting best practices we and industry have identified for cost estimating, schedule estimating, and applying an analysis of alternatives (AOA) framework to the early stages of project planning. DOE also plans to publish a guide to instruct DOE staff on how to conduct an AOA.

We are encouraged by DOE's project management reforms but note that the memorandums and the November 2014 report, as well as associated changes to DOE's project management order, do not fully include all important elements of a corrective action plan. For example, these documents do not identify goals and performance measures, establish milestones and metrics for implementing plan goals, or establish processes for reporting progress. In addition, DOE's corrective action plan does not appear to be comprehensive. For example, DOE's plan does not address challenges with (1) acquisition planning for its major contracts, (2) the quality of enterprise-wide cost information, or (3) the policy on program management. It also does not fully address how DOE will apply these new requirements to major legacy projects. Specifically:

- DOE's corrective action plan does not address acquisition planning for its major contracts—a phase during which critical contract decisions are made that have significant implications for the cost and overall success of an acquisition. In August 2016, we found that DOE did not consider acquisition alternatives beyond continuing its longstanding M&O contract approach for 16 of its 22 M&O contracts. Without considering broader alternatives, DOE cannot ensure that it is selecting the most effective scope and form of contract, raising risks for both contract cost and performance. The size and duration of DOE's M&O contracts—22 M&O contracts with an average potential duration of 17 years, representing almost three-quarters of the agency's spending in fiscal year 2015—underscore the importance of planning for each M&O acquisition.

- DOE's corrective action plan does not address the quality of enterprise-wide cost information available to DOE managers and key stakeholders. Reliable enterprise-wide cost information is needed to identify the cost of activities, to ensure the validity of cost estimates, and to provide information to Congress to make budgetary decisions. In January 2017, we found that NNSA's recently developed plan to improve and integrate financial data to better understand and compare costs across NNSA programs, contractors, and sites did not fully incorporate leading strategic planning practices, which limits its usefulness as a planning tool as well as the effectiveness of NNSA's effort to provide meaningful financial information to Congress and other stakeholders. NNSA's plan also contains few details for all the elements it must include, such as its feasibility assessment, estimated costs, expected results, and an implementation timeline. Consequently, NNSA's plan does not provide a useful roadmap for guiding NNSA's effort. We recommended that NNSA develop a plan for producing cost information that fully incorporates leading planning practices. NNSA agreed with our recommendation.
- DOE's corrective action plan does not address its need for a program management policy. For example, in November 2016, we found that DOE had not established a department-wide program management policy, and that NNSA had cancelled its program management policy in 2013 without establishing a new policy in its place. We concluded that having a policy that incorporates existing key internal control standards and leading industry program management practices may help ensure that EM and NNSA program offices are better able to achieve their missions, goals, and objectives. For example, in an August 2016 report examining NNSA's plans to build the CMRR, we found that the agency had not clarified whether the project would satisfy the mission needs of other NNSA and DOE programs.

  NNSA might have been better able to clarify this project's mission needs if DOE and NNSA had been operating under a DOE-wide program management policy incorporating leading practices. DOE and NNSA officials said they recognize the importance of establishing a program management policy, but at the time DOE had not taken steps to develop such a policy. We recommended that DOE establish a program management policy addressing internal control standards and leading practices. DOE had no comments on our recommendation. After our report was issued, the President signed the 2016 Program Management Improvement Accountability Act, also requiring the development of standards, policies, and guidelines for program and project management across the federal government. As required in the act, we will continue to monitor and report on its

implementation in connection with our biennial high-risk updates, including on the effectiveness of the standards, policies, and guidelines that will be developed.

- DOE's corrective action plan also does not fully address how DOE's new requirements will be applied to the department's major legacy projects, which receive billions of dollars in annual funding and often present the most intractable project management challenges. For example, we found in May 2015 that DOE continues to allow construction of certain WTP facilities before designs are 90 percent complete and other facilities before establishing updated cost and schedule baselines.

  This contrasts with DOE's revised project management order that now requires (1) a facility's design to be at least 90 percent complete before establishing cost and schedule baselines and (2) cost and schedule estimates that meet industry best practices. The WTP is DOE's largest project, and it has faced numerous technical and management challenges that have added decades to its schedule and billions of dollars to its cost. We recommended in 2015 that DOE consider limiting construction for certain waste treatment facilities until technical challenges are addressed, but DOE did not implement our recommendation. For DOE to fully meet the corrective action criterion, it must demonstrate its willingness to apply project management reforms to the projects that need them the most.

Moreover, the department still may not understand all of the root causes of its contract and project management problems. The most recent corrective actions taken by DOE represent the third such cycle since 2008, and the root causes DOE identified in November 2014 included some issues that the department had declared it previously mitigated, such as difficulties with front-end planning. Specifically, DOE acknowledged in its November 2014 root cause analysis its longstanding problems with front-end planning, stating that insufficient front-end planning has consistently contributed to DOE projects not finishing on budget or schedule.

That root cause analysis also found that more rigorous front-end planning and AOA would likely have resulted in DOE selecting different capital construction projects for some of its major projects. DOE has taken some actions on front-end planning such as requiring that analyses of alternatives be conducted in accordance with best practices by an entity independent of a project's chain of command. However, in our prior work we found that front-end planning problems persist, indicating that the

department has either not fully identified the root causes or established effective corrective actions to mitigate them. For example:

- In July 2015, we found that NNSA had not followed established departmental policy for front-end planning—which requires developing a mission need independent of a particular solution—when considering how it might replace an aging lithium production facility. NNSA included a description of alternatives for addressing its mission need, such as building a new facility or outsourcing lithium processing, but it also expressed a preference for a particular solution—specifically, a new facility, which could cost more than $600 million and take 8 to 10 years to construct. Expressing such a preference before all viable alternatives are considered could potentially undermine NNSA's ability to choose the alternative that best satisfies the mission need. We recommended that NNSA objectively consider all alternatives, without preference for a particular solution, as it proceeds with its AOA process. NNSA neither agreed nor disagreed with our recommendation.
- In August 2016, we found problems with DOE's front-end project planning at the Waste Isolation Pilot Plant (WIPP) for the new permanent ventilation system. This system is being built to enable DOE to resume full operations of the geological nuclear waste repository, which were suspended after a radiological release accident in February 2014. DOE did not follow all best practices in analyzing and selecting an alternative for the new ventilation system at WIPP, which DOE estimated will cost between $270 million and $398 million to build and will be completed by the end of March 2021.

  For example, DOE did not select the preferred alternative based on assessing the difference between the life-cycle costs and benefits of each alternative, as called for by best practices and required by DOE's revised project management order. We recommended that DOE require projects, including the WIPP ventilation system, to implement recommendations from independent AOA reviews or document the reasons for not doing so. DOE concurred with the recommendation and planned to incorporate guidance in its updated project review guide on how DOE offices should address recommendations from independent reviews.

Monitoring

DOE made significant efforts to improve its performance in monitoring and independently validating the effectiveness and sustainability of

corrective measures and now partially meets our monitoring criterion. Changes DOE has made are important and can substantively improve how DOE oversees and executes its major projects and programs. We have not evaluated the effectiveness of the new monitoring measures because it will take time for DOE to employ them, and we note that they do not cover all aspects of contract management or certain EM activities and depend upon the availability of reliable enterprise-wide cost information.

The Secretary has instituted the following measures to improve monitoring:

- The Secretary improved the department's senior-level monitoring capability by establishing the PMRC and strengthening the ESAAB, enhancing DOE's ability to monitor its projects by conducting regular and more frequent reviews, among other things. The PMRC is comprised of the department's leading project management experts, and it meets on a biweekly basis. According to DOE officials, during 2015, the committee reviewed 19 project milestones, 2 proposals for updating major projects' cost and schedule, and received 15 briefings from independent project review teams. Also in 2015, the PMRC reviewed multiple major projects, such as the Uranium Processing Facility (UPF), the MOX facility, the CMRR project, WTP, and the Salt Waste Processing Facility. The PMRC also prepared information on these projects for ESAAB meetings in which most of these major projects were discussed. In addition, according to senior DOE officials, the PMRC focuses on all elements of project risk, not just those elements related to DOE's project management order but also projects' contract terms and regulatory compliance.
- DOE has included the role of the PMRC in its updated project management order, issued in May 2016, and created the CRO position, which DOE plans to institutionalize. The CRO's primary function is to independently oversee capital asset projects and alert the Secretary to any particular risks that may threaten projects' on-time or on-budget delivery.
- DOE enhanced oversight of projects during the commissioning phase—the phase after construction is complete but before operations begin. DOE did so in response to its experience with the Sodium-Bearing Waste Treatment Facility at its Idaho site. In March 2016, DOE's Office of Inspector General found major design and construction problems during the commissioning phase of this facility. The Inspector General's investigation found that DOE had moved the scope of work associated with the comprehensive performance test,

which demonstrates that the facility would perform its mission as designed, from the construction phase of the project to the operations phase of the project. The project modification prevented DOE from rigorously testing the facility before construction was declared complete. The Inspector General's investigation concluded that the total actual construction cost for this facility was likely understated by about $181 million, and additional future costs to make the facility operational could exceed $40 million.

In August 2016, DOE senior management created a new "operational release" phase of project management that applies to the time frame. During this phase, program offices must continuously oversee projects. The program offices are required to develop and execute a detailed plan to attain full operational capability and to provide quarterly progress updates to senior decision makers and the PMRC until full operational capability is attained. DOE officials stated that the first project in the commissioning phase to be reviewed by the PMRC will be the Sodium-Bearing Waste Treatment Facility. Officials also stated that the department intends to provide guidance to project managers through a new Commissioning Guide to be issued in fiscal year 2017.

- DOE established project assessment offices, independent of line management, which review projects at least annually. Through a May 2015 memorandum, NNSA elevated its Office of Project Assessment to report directly to the Under Secretary, increasing the prominence of this function and the likelihood that problems, if encountered, will receive senior-level attention within NNSA. According to EM officials, EM uses its Office of Project Management to conduct regular independent project reviews for projects under $100 million, and since July 2016, DOE's Office of Project Management, Oversight, and Assessments has reviewed EM projects with a cost greater than $100 million.

  DOE officials stated that DOE's Office of Project Management, Oversight, and Assessments follows up monthly with the EM project teams to make sure they implement its recommendations. We will continue to assess whether these offices effectively conduct project assessments and other independent reviews. In August 2016, while reviewing the WIPP recovery, we found that DOE did not follow a recommendation from an independent review and selected an alternative without conducting a cost-benefit analysis, as suggested by industry best practices. We recommended that DOE revise its Order 413.3B to require DOE offices either to implement recommendations from independent reviews or justify and document

the rationale for not doing so. DOE concurred with our recommendation.

- DOE established new and enhanced data systems for project data and documentation. In October 2016, DOE officials stated that the department improved its Earned Value Management System—a tool that measures the value of completed work against the planned work schedule and estimated cost—to enhance receipt of accurate and reliable information, and enhanced its Project Assessment and Reporting System II—its central repository and system of record for contractor's cost and schedule performance data. Nevertheless, DOE does not have current cost and schedule baselines for certain major projects, limiting the department's ability to monitor cost and schedule performance. For example, NNSA has not updated the cost and schedule baseline for the MOX facility since 2012, even though DOE's current cost estimates show a cost increase of approximately $10 billion. For the WTP, DOE does not have a current cost baseline for key waste treatment facilities. DOE's cost performance data shows that the approved total project cost of $16.8 billion is underestimated, and a senior DOE official recently informed Congress that the WTP's cost will increase significantly.

DOE's efforts to improve monitoring are encouraging, but additional time is needed for us to assess how effectively these recent monitoring improvements will validate the sustainability of corrective measures. We have not yet evaluated the operations of the PMRC, but according to its charter this committee serves in an advisory role to the ESAAB and the programs, while the program offices remain responsible for delivering projects. DOE officials stated that the PMRC provides a list of its recommendations for the ESAAB meetings, but DOE does not track which PMRC recommendations are implemented. In our ongoing work, we have identified an example that raises questions about whether the programs are following the guidance of the PMRC. For the Tank Waste Characterization and Staging facility at Hanford, DOE estimated a cost range of $390 million to $690 million. However, we reported in May 2015 that this cost range was not reliable. We also found that EM officials had estimated that the cost for this facility would range from $1 billion to $1.5 billion, making it a major project and subject to more rigorous oversight requirements. The PMRC reviewed the cost estimates showing that this facility should be classified as a major project, but the program office responsible for the facility did not modify the cost range for the project at inception, raising questions about the extent of the PMRC's influence.

DOE's new oversight and monitoring efforts are not comprehensive, as certain activities within EM are not subject to review by the PMRC, even though together they cost billions of dollars and last for numerous years. Specifically, the PMRC does not review the cost and schedule performance of operations activities within EM. These operations activities include programs such as groundwater treatment at the Hanford site, which has annually cost between about $140 million and $185 million in recent years.

Moreover, some of these activities are not covered by the requirements of DOE's revised project management order and have experienced problems similar to DOE's major projects. For example, in August 2016, we reported that DOE's protocol that governs EM cleanup operations does not require EM to use industry best practices in developing cost and schedule estimates, as DOE's project management order does. We found that DOE's recovery activities to start WIPP waste disposal operations—which are considered EM operations activities—incurred a cost increase of about $64 million and a schedule delay of nearly 9 months, in part because DOE's initial estimates to complete the recovery activities did not follow all best practices and were therefore unreliable. Notably, DOE estimated it would restart waste operations based on a schedule that gave DOE less than a 1 percent chance of meeting its restart date. We recommended that EM revise its protocol to require it to use best practices in developing cost and schedule estimates. DOE concurred with our recommendation and stated that EM plans to transition from the operations activities protocol to a new directive for operations activities, which will include guidance on using cost and schedule best practices.

Finally, the effectiveness of DOE's monitoring of its contracts, projects, and programs depends upon the availability of reliable enterprise-wide cost information on which to base oversight activities. Such information is needed to, among other things, identify the costs of activities and ensure the validity of its cost estimates. However, meaningful cost analysis—including comparisons across programs, contractors, and sites—is not possible because NNSA's contractors use different methods of accounting for and tracking costs. NNSA developed a plan to improve and integrate its cost reporting structures; however, we found in our January 2017 report that the plan did not provide a useful roadmap for guiding NNSA's effort. Until a plan is in place that incorporates leading strategic planning practices, NNSA cannot be assured that its efforts will result in a cost collection tool that produces reliable enterprise-wide cost information that satisfies the information needs of Congress and program

managers, and enables DOE to effectively monitor its progress in improving how it manages its contracts and programs.

Demonstrated Progress

As noted earlier, DOE implemented a series of changes to policies and procedures to improve project management, but the department does not yet meet the criterion for demonstrating progress. DOE's recent reforms are in the early stages, and more time is needed to assess the effectiveness of corrective measures and associated progress, especially with respect to ongoing major projects. DOE has taken significant actions regarding two of its six ongoing major projects but continues to encounter significant project management challenges, cost increases, and schedule delays on others. In addition, DOE's recent reforms do not address contract management, and our work since the last high-risk report has identified several significant challenges with DOE contract management on which DOE has taken little action.

For two major projects, DOE has taken significant steps to address cost and schedule problems. For example, NNSA proposed, in its fiscal year 2017 budget request, to terminate the MOX project and pursue an alternative path for disposing of plutonium, under which DOE would dilute plutonium for disposal in a geologic repository. For the UPF, NNSA has cancelled its plans for a large uranium facility, and proposed to use both existing and new smaller facilities and new technologies to meet its needs. It is too early to determine the effects of these changes. DOE has not developed a complete, reliable cost estimate for its new approaches at the MOX or UPF facilities. NNSA officials believe the new approaches will allow the agency to meet its mission needs at lower costs to the taxpayer.

Our recent work has identified continuing challenges for two major projects that DOE's recent project management reforms in theory should have addressed. For example,

- In May 2015, we found that DOE continues with its design build approach at the WTP, which is not consistent with DOE's revised project management order. DOE's revised project management order requires a facility's design to be at least 90 percent complete before establishing cost and schedule baselines. We found that construction had outpaced design at some facilities at WTP, and external reviews had identified hundreds of vulnerabilities in the waste treatment facilities after assessing only half of the facilities' systems. However,

EM has not applied DOE's requirement to the WTP. We recommended that DOE (1) limit construction on the WTP until risk mitigation strategies are developed to address known technical challenges, and (2) determine the extent to which the quality problems exist, in accordance with its quality assurance policy, for the facilities' systems that have not been reviewed to determine if additional vulnerabilities exist. DOE neither agreed nor disagreed with these recommendations and has not implemented them.

- In August 2016, we found that DOE did not follow project management requirements in its front-end planning for an alternative to the CMRR project. After spending $450 million designing the project, NNSA reversed its decision to build a large nuclear facility because of projected excessive cost growth. Instead, NNSA revised the CMRR project to use existing and smaller new facilities. We found that NNSA defined requirements for the new project without specifying the capacity for analyzing plutonium that the project should provide, as required in DOE's project management order. We made several recommendations, including that NNSA identify the capacity for analyzing plutonium for the revised CMRR project. NNSA neither agreed nor disagreed with the recommendations.

As noted earlier, DOE's corrective action plan does not address problems with DOE's oversight of major contracts. These problems have been longstanding. For example, we noted in 1991 that DOE lacked assurance that its oversight and control of contract expenditures will deter and detect potential fraud, waste, and abuse. In addition to the contract management issues noted earlier, such as acquisition planning for major contracts and the quality of enterprise wide-cost information, our recent work identifies additional challenges DOE continues to face in contract management. In May 2015, we found that NNSA had not established policies or guidance specific to using information from CAS to evaluate M&O contractor performance. NNSA did not have policy or guidance on how or to what extent NNSA officials should use information from CAS in evaluating M&O contractors' performance. We recommended that NNSA revise its policy, guidance, and procedures for evaluating performance to fully address how and under what circumstances those responsible for evaluating M&O contractors' performance should use information from CAS. NNSA agreed with this recommendation and revised the policy in 2016. NNSA also created a website and held a summit to share CAS lessons learned and strengthen the CAS community of practice. However, NNSA has not established comprehensive guidance for implementing this policy consistently.

Even though we removed nonmajor projects from our High-Risk List, we continue to monitor how DOE manages these projects to ensure that DOE sustains progress in this area. We note that the Secretary's December 2014 and June 2015 memorandums applied project management reforms to nonmajor projects previously not subject to such requirements, and DOE's performance in meeting cost and schedule milestones for nonmajor projects continues to improve, with nearly 95 percent of such projects meeting cost and schedule milestones over the last 3 years, according to DOE officials. Our recent work, however, shows that several nonmajor projects exhibit some of the challenges that have long persisted for DOE's major projects, such as incomplete front-end planning and unreliable cost and schedule estimates, which means that nonmajor projects still warrant our observation.

For example, in May 2015, we found that DOE had unreliable cost and schedule estimates for constructing two proposed facilities that are considered separate, nonmajor projects at the Hanford site's WTP. These facilities are (1) a pretreatment system to treat some of the low-activity waste in the tanks and (2) a tank waste characterization and staging facility to stage, mix, sample, and characterize high-level waste from the tanks prior to delivery to the pretreatment facility. They have a combined total estimated cost of $633 million to at least $1 billion. We found DOE excluded from its estimates the costs of some major activities necessary to construct these facilities, and did not sequence activities to complete them in accordance with schedule estimating best practices. We recommended, among other things, that DOE revise cost and schedule estimates for these two facilities in accordance with industry best practices. DOE generally agreed with our recommendations but has not yet implemented them.

Benefits Achieved from Implementing Our Recommendations

In 2014, we reviewed DOE's request for fiscal year 2015 funding for the WTP. We found that DOE requested an additional $23 million for the design of a system to address technical problems the WTP had recently encountered. We noted that because engineering and construction at key WTP facilities had been stalled or slowed in fiscal year 2013, it was unclear whether DOE needed the full funding for WTP plus the additional amount to address technical problems. In the fiscal year 2015 appropriations bill, Congress provided $667 million for work at the WTP,

which was $23 million less than DOE's budget request for the WTP for that year.

DOE achieved some benefits by implementing several of our recommendations in fiscal years 2015 and 2016. Specifically

- DOE instituted requirements for projects and programs to follow cost-estimating best practices.
- DOE instituted requirements for projects and programs to follow analysis of alternatives best practices.
- DOE analyzed root causes of the Plutonium Disposition Program cost increases and instituted a department-wide requirement for root cause analysis of cost and schedule breaches.
- DOE's Office of Environmental Management developed a consolidated workforce plan.
- DOE provided independent reviews of nonmajor projects, and defined and tracked performance targets for nonmajor projects.

GAO Contact

For additional information about this high-risk area, contact David Trimble at (202) 512-3841 or trimbled@gao.gov.

Related GAO Products

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NASA Acquisition Management

Why Area Is High Risk

The National Aeronautics and Space Administration (NASA) plans to invest billions of dollars in the coming years to explore space, understand Earth's environment, and conduct aeronautics research. We designated NASA's acquisition management as high risk in 1990 in view of NASA's history of persistent cost growth and schedule delays in the majority of its major projects. Our work has shown that NASA has made progress over the past 5 years in a number of key acquisition management areas, but it faces significant challenges in some of its major projects largely driven by the need to improve the completeness and reliability of its cost and schedule estimating, estimating risks associated with the development of its major systems, and managing to aggressive schedules.

What GAO Found

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

NASA has continued to strengthen and integrate its acquisition management functions, resulting in the agency continuing to meet three criteria for removal from our High-Risk List: leadership commitment, a corrective action plan, and monitoring. For example, NASA has

established metrics to monitor progress in improving acquisition management, and in recent years, we have found that many of the projects within the agency's major project portfolio have improved their cost and schedule performance.[1] NASA's metrics include cost and schedule performance indicators and we have found that NASA's performance metrics generally reflect improved performance. These actions have helped NASA to create better baseline estimates and track performance such that NASA has been able to launch more projects on time and within cost estimates.

Although NASA has taken steps toward meeting our criteria for capacity by issuing guidance and implementing tools to reduce acquisition risk, our reviews have found that these efforts have not always been consistent with best practices in areas such as cost and schedule estimating and earned value management (EVM). Finally, while the agency has taken steps to demonstrate progress toward improving acquisition outcomes overall, we found that NASA continues to face significant challenges in its ability to manage and oversee its most expensive and complex projects, most notably its human spaceflight development programs. NASA must ensure that it conducts adequate and ongoing assessments of risks and understands the long-term costs for its larger human exploration programs, as the effects of any potential miscalculations could be felt across NASA's portfolio. Such efforts should help maximize improvements and to demonstrate that the improved cost and schedule performance will be sustained, even for the agency's most expensive and complex projects.

In our 2015 high-risk update, we found that NASA has satisfied our high-risk criteria for the areas of leadership commitment, monitoring, and an action plan.[2] We believe NASA's progress in these areas is reflected in the improved cost and schedule performance of NASA's portfolio of major acquisition projects, which includes projects with a life-cycle cost of more than $250 million. For example, in 2016, overall development cost growth for the portfolio of 12 development projects fell to 1.3 percent and launch delays averaged 4 months.[3] Both of these measures are at or near the

[1]GAO, *NASA: Assessments of Major Projects*, GAO-16-309SP (Washington, D.C.: Mar. 30, 2016); *NASA: Assessments of Selected Large-Scale Projects*, GAO-15-320SP (Washington, D.C.: Mar. 24, 2015); and *NASA: Assessments of Selected Large-Scale Projects*, GAO-14-338SP (Washington, D.C.: Apr. 15, 2014).

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

[3]GAO-16-309SP.

lowest levels we have reported since we began our annual assessments in 2009.[4] These measures exclude the James Webb Space Telescope (JWST), which NASA rebaselined in September 2011 with significant cost increase and schedule delays.[5] As of December 2016, we found that program continues to meet its revised cost and schedule commitments.[6]

What Remains to Be Done

NASA manages a portfolio of projects that will always have inherent technical, design, and integration risks because its projects are complex, specialized, and often push the state of the art in space technology. NASA has already taken steps to reduce acquisition risk from both a technical and management standpoint. The next few years will certainly test the extent to which these measures have taken hold in NASA's largest programs. However, more needs to be done with respect to anticipating and mitigating risks—especially with regard to large programs, estimating and forecasting costs for its largest projects, and implementing management tools. Actions that will be critical to improving NASA's acquisition outcomes include the following:

- Ensure that NASA conducts adequate and ongoing assessments of risks for larger programs—JWST, Space Launch System (SLS), Orion Multi-Purpose Crew Vehicle (Orion), and Exploration Ground Systems

[4]The explanatory statement of the House Committee on Appropriations accompanying the Consolidated Appropriations Act of 2008 directed us to prepare project status reports on selected large-scale NASA programs, projects, or activities—which we began in 2009. Each assessment is presented in a two-page summary that analyzes the project's cost and schedule status and project challenges. We also provide general observations about the performance of NASA's major projects and the agency's management of those projects during development.

[5]NASA projects are rebaselined when their estimated development cost exceeds NASA's baseline commitment development cost by 30 percent or more and Congress has reauthorized the project; events external to NASA make a rebaseline appropriate; or a NASA associate administrator determines that the project's scope changed from the approved project baseline. NASA rebaselined the JWST program in 2011 with an estimated cost of $8.8 billion—a 78 percent increase over its fiscal year 2009 baseline—and a planned launch date of October 2018, a 52-month delay from its baseline. We excluded JWST cost and schedule growth from the calculations of the portfolio because including its cost and schedule growth masks any changes in the rest of the portfolio, as the magnitude of JWST, in terms of both schedule and cost growth, is larger than the other projects in the portfolio that are in implementation.

[6]GAO, *James Webb Space Telescope: Project Meeting Cost and Schedule Commitments but Continues to Use Reserves to Address Challenges,* GAO-17-71 (Washington, D.C.: Dec. 7, 2016).

(EGS)—especially since each of these programs is at a different critical point in development and implementation, and the impacts of any potential miscalculations will be felt across NASA's portfolio.

- Ensure that NASA understands long-term human exploration program costs. While the three major exploration programs have been baselined, none of the three programs have a baseline that covers activities beyond the second planned flight. Long-term estimates, which could be revised as potential mission paths are narrowed and selected, would provide decision makers with a more informed understanding of costs and schedules associated with potential agency development paths.
- Ensure that the Orion program analyzes the cost of deferred work in relation to levels of management reserves and unallocated future expenses, and actual contractor performance, and report the results of that analysis to NASA management.
- Ensure that rebaselined projects report cost and schedule growth from original baselines in order to provide stakeholders and Congress with a more accurate view of project performance and to enhance accountability.
- Ensure that program offices regularly and consistently update their Joint Cost and Schedule Confidence Levels (JCL) across the portfolio.[7] As a project reaches the later stages of development, especially integration and testing, its risk posture may change. An updated project JCL would provide both project and agency management with data on relevant risks that can guide project decisions.
- Ensure that NASA continues its efforts to build capacity in areas such as cost and schedule estimating, and measuring contractor performance.
- Revisit schedules to ensure programs have fully considered the effects of managing programs in order to meet aggressive schedule dates.

Our ongoing work assessing Commercial Crew, EGS, Orion, SLS, JWST, and the performance of the portfolio as a whole will provide insight into how well NASA is performing over the next several years.

[7]The JCL is a point in time estimate that, among other things, includes all cost and schedule elements, and incorporates and quantifies known risks that support each program's acquisition baseline.

Additional Details on What GAO Found

Leadership Commitment

We determined in our 2015 update that NASA had met our criteria in the area of leadership commitment, which the agency continues to meet. We believe that the agency's efforts in this area—including the strengthening of its acquisition policy and oversight functions—have resulted in improvement of major acquisition projects' cost and schedule performance.

Capacity

NASA has partially met our high-risk criteria for capacity. While NASA has taken steps to issue guidance and implement tools to reduce acquisition risk, our reviews have found that these efforts have not always been consistent with best practices in areas such as estimating costs and schedules and EVM surveillance.

In February 2015, NASA published a new version of its Cost Estimating Handbook that includes an appendix on JCL analysis. But NASA does not require its projects to update JCLs. Our prior work has found that projects do not regularly update cost risk analyses to take into account newly emerged risks. Our Cost Estimating and Assessment Guide recommends that cost estimates should be updated to reflect changes to a program or kept current as it moves through milestones. [8] As new risks emerge for a project, updating the cost risk analysis can provide realistic estimates to decision makers, including Congress.

Further, we have found that NASA's three costliest acquisition programs—JWST, SLS, and Orion—did not fully follow best practices when developing their JCLs. For example, in July 2016 we found that the Orion program's cost estimate met or substantially met 7 of 20 best practices and its schedule estimate met only 1 of 8 best practices.[9] The cost estimate lacked necessary support and the schedule estimate did

[8]GAO, *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*, GAO-09-3SP (Washington, D.C.: Mar. 2, 2009).

[9]GAO, *Orion Multi-Purpose Crew Vehicle: Action Needed to Improve Visibility into Cost, Schedule, and Capacity to Resolve Technical Challenges*, GAO-16-620 (Washington, D.C.: July 27, 2016).

not include the level of detail required for high-quality estimates. Without sound cost and schedule estimates, decision makers do not clearly understand the cost and schedule risk inherent in the program and lack important information they need to make programmatic decisions. In October 2015, NASA decided to decentralize its independent assessment function and deploy the staff to the agency's centers, in part, to better use its workforce to meet program needs in areas such as program management, cost estimating, and resource analysis, and to fill gaps in program analysis skills at the center level. It is too early to tell whether this change will address skills gaps and ultimately improve the quality of JCLs in the future as programs will need to hold reviews under this organization of the assessment function, and compare those reviews to actuals in order to assess the change.

NASA has made progress implementing EVM analysis—another key project management tool— but the agency has not yet fully implemented a formal EVM surveillance plan in accordance with best practices. NASA has made significant progress rolling out EVM to its centers and supported these efforts with training, including classroom and online training to projects. In November 2012, we recommended that NASA update its procedural requirements to include a formal EVM surveillance program in order to improve the reliability of EVM data collected by NASA programs.[10] While NASA agreed with our conclusion that EVM data reliability needed improvement, it has yet to implement a formal surveillance requirement due to resource constraints. In our December 2015 review of JWST, we found EVM data anomalies and recommended that project officials require the contractors to explain and document all such anomalies in their monthly EVM reports.[11] A continuous surveillance program could have identified these anomalies earlier, allowing the project to pursue corrective action with its contractors. NASA has since implemented this recommendation for the JWST program. Proper surveillance of EVM contractor data is a best practice in the NASA Earned Value Management Handbook and our Cost Estimating and Assessment Guide.[12]

[10]GAO, *NASA: Earned Value Management Implementation across Major Spaceflight Projects Is Uneven*, GAO-13-22 (Washington, D.C.: Nov. 19, 2012).

[11]GAO, *James Webb Space Telescope: Project on Track but May Benefit from Improved Contractor Data to Better Understand Costs*, GAO-16-112. (Washington, D.C.: Dec. 17, 2015).

[12]GAO-09-3SP.

Action Plan

In our 2015 high-risk update, we found that NASA had satisfied our high-risk criteria for an action plan and it continues to do so. NASA, which reports its action plan metrics to us on a semiannual basis, continues to perform within the parameters outlined in the plan—such as meeting metrics for cost and schedule performance, and mission success measures. These and other steps have enabled NASA to launch more projects on time and within cost estimates.

Monitoring

We found in 2015 that NASA had met our high-risk criteria for monitoring and it continues to do so. NASA has established metrics to monitor progress in improving acquisition management, and we have found that those metrics generally reflect improved performance. The NASA Systems Engineering Handbook includes several technical indicators for design maturity, and the agency's project management policy and systems engineering policy have been updated to require projects to track these metrics. In March 2016, we found that NASA had sustained prior improvement in design stability for its major acquisition projects.[13]

Demonstrated Progress

NASA has partially met our criteria for demonstrating progress. The agency has taken steps to improve acquisition outcomes, but we continue to find that the agency faces significant challenges in its ability to manage and oversee its most expensive and complex projects, most notably regarding human spaceflight development. Other programs demonstrate that NASA continues to face challenges accurately estimating or quickly responding to risks. Also, NASA inconsistently reports on the performance of some programs, which masks the full extent of cost and schedule growth.

Together, NASA's three human spaceflight efforts constitute more than half of NASA's portfolio development cost baseline, and helped make the 2016 portfolio the most expensive collection of NASA projects in development since we began our annual assessment in 2009. Although NASA's human spaceflight programs are generally better positioned for

[13]GAO-16-309SP.

success than the agency's most recent effort to replace the space shuttle, managing weaknesses—including unreliable cost estimating, overly ambitious internal deadlines, limited reserves, and operating for extended periods of time without definitized contracts—have increased the likelihood that it will incur overruns and schedule delays, particularly when coupled with the broad array of technical risks that are inherent in any human spaceflight development.

Moreover, all three human spaceflight projects will be significantly challenged in the next 2 years as NASA aims to launch its first exploration mission by November 2018. This mission, which will not have a crew, will fly some 70,000 kilometers beyond the moon—using the SLS launch vehicle, Orion, and EGS. During this time, the human spaceflight programs will need to resolve a multitude of technical and design challenges, complete fabrication and testing, and be delivered to the Kennedy Space Center where they will be integrated with each other and prepared for launch. Numerous activities along this development path are sequential and cannot be rearranged to gain back time lost from prior delays. Other activities can be deleted or performed concurrently, but not without more risk to the program. If delays materialize during individual systems integration and testing, they could cause a cascading effect of cross-program problems. NASA has already made these later phases more complicated by postponing key activities in order to keep pace with internal deadlines. In addition, because the agency will be in the final throes of other major programs, such as JWST, senior leaders' attention may be divided amongst many programs in the months leading up to the first exploration mission.

Examples of management risk for human spaceflight programs that we have recently identified include:

- As we found in July 2016, each program manages to an aggressive internal NASA launch readiness date, which creates an environment for programs to make decisions based on reduced knowledge to meet a date that is not realistic.[14] For example, the EGS program has consolidated future schedule activities to prepare the mobile launcher—the vehicle used to bring SLS to the launch pad—to meet this internal goal. The program acknowledged that consolidating activities—which includes conducting verification and validation

[14]GAO, *NASA Human Space Exploration: Opportunity Nears to Reassess Launch Vehicle and Ground Systems Cost and Schedule,* GAO-16-612 (Washington, D.C.: July 27, 2016), and GAO-16-620.

concurrent with installation activities—increases risk because of uncertainties about how systems not yet installed may affect the systems already installed. Officials added, however, that this concurrency is necessary to meet the internal schedule.

- All three programs are operating with limited cost reserves, which limit each program's ability to address risks and unforeseen technical challenges. For example, we found in July 2016 that the Orion program will maintain very low levels of annual cost reserves until 2018.[15] The lack of currently available cost reserves has caused the program to defer work to address technical issues to stay within budget. As a result, the Orion program's reserves in future years could be overwhelmed by deferred work—a practice that contributed to the rebaseline of the JWST program, which included a $3.6 billion cost increase and a 52-month schedule delay.
- We found in July 2016 that the SLS program has not positioned itself well to accurately assess progress with the core stage—SLS's structural backbone and fuel tank—because it did not have a performance measurement baseline for that contract.[16] Such a baseline is necessary to support EVM reporting that can provide early warning signs of impending schedules delays and cost overrun, and provide unbiased estimates of anticipated costs at completion. The lack of an accurate performance measurement baseline stemmed from different assumptions between NASA and the contractor about when funding would be available to start different work and ultimately led to a contract modification. NASA and the contractor signed the contract replan in May 2016—with a cost increase of approximately $1 billion—and the program began receiving contractor EVM data in July 2016, more than 4.5 years after NASA awarded the contract.
- The cost and schedule baselines NASA has established for these three programs provide little visibility into long-term planning and costs. The baselines for SLS and EGS are applicable through the first exploration mission, and the baseline for Orion extends through the second exploration mission. However, the limited scope that NASA has chosen for constructing these cost estimates means that these estimates are unlikely to serve as a way to measure progress and track cost growth over the life of the projects which are expected to extend well beyond these first missions.

[15]GAO-16-620.

[16]GAO-16-612.

In addition to these human spaceflight programs, NASA plans to reestablish a domestic capability to fly astronauts to the International Space Station through its Commercial Crew program by the end of 2018. This is also proving to be an aggressive schedule and NASA's two contractors are concurrently developing, testing, and producing their vehicles in an effort to maintain schedule. Significant delays could lead to a gap in U.S. access to the International Space Station as NASA has acquired seats on the Russian Soyuz vehicle only through 2018.

NASA also continues to have trouble demonstrating progress in executing two projects that we found in our 2015 high-risk update illustrated instances in which the agency had either underestimated risks and potential effects or had not reacted quickly enough to risks when they worsened:[17]

The Ice, Cloud, and Land Elevation Satellite-2 (ICESat-2) project—also scheduled to launch in 2018—continues to experience issues with its sole instrument, a laser altimeter. The project may require an additional 10 months or more to resolve technical challenges. The project already underwent one rebaseline in 2014, resulting in a 37 percent higher development cost than its original baseline—from $558.9 million to $763.7 million—which NASA officials at the time primarily attributed to underestimating the technical complexity of the project's design.

The Space Network Ground Segment Sustainment (SGSS) project's contractor provided overly optimistic estimates, which—despite project officials being aware of this issue during project confirmation—necessitated a rebaseline shortly after the project was confirmed. NASA approved a new baseline in June 2015, which increased its estimated cost by $345 million and delayed its estimated completion by 27 months. In February 2016, NASA reclassified SGSS as a sustainment project rather than a major project, which reduces reporting and oversight requirements.

Finally, as we highlighted in the 2015 high-risk update, the inconsistent way NASA measures its progress toward reducing acquisition risk masks true cost and schedule growth for some programs.[18] When NASA reports on cost and schedule performance for individual projects or across its portfolio, it uses rebaseline data rather than original project baseline data

[17]GAO-15-290.

[18]GAO-15-290.

for measuring outcomes. Cost and schedule growth that occurred prior to the rebaseline of a troubled project are excluded from calculations of overall progress. As a result, when the agency reports program performance in this manner—as it has for JWST, ICESat-2, and others—it makes it difficult to track cost and schedule growth compared to the agency's original commitment levels.

Benefits Achieved by Implementing Our Recommendations

- In November 2012, we found that NASA employee skill sets available to analyze and implement EVM vary widely from center to center, and we recommended that NASA conduct an EVM skills gap analysis to identify areas requiring augmented capability across the agency, and, based on the results of the assessment, develop a workforce training plan to address any deficiencies.[19] NASA developed an EVM training plan in 2014 based on the results of an EVM skills gap analysis that was conducted in 2013.
- In November 2012, we found that NASA faced cultural and technical challenges that it must overcome to successfully implement an EVM system and to use this data on a regular basis to inform decision making.[20] We recommended that the agency develop an EVM change management plan to assist managers and employees throughout the agency with accepting and embracing earned value techniques while reducing the operational effect on the agency. In response to our recommendation, in 2014, NASA developed an EVM change management plan. This plan was approved by the EVM Steering Committee, which is comprised of senior-level NASA officials who provide guidance to the agency on implementing EVM. In addition, the plan was briefed to the EVM Focal Points who are responsible for implementing the plan within their respective organizations.
- In November 2012, we found that 10 NASA major spaceflight projects had not yet fully implemented EVM.[21] As a result, NASA was not taking full advantage of an important tool that could help reduce acquisition risk. We recommended that NASA establish a time frame by which all new spaceflight projects will be required to implement

[19]GAO-13-22.

[20]GAO-13-22.

[21]GAO-13-22.

NASA's newly developed EVM system to ensure that in-house efforts are compliant with ANSI/EIA-748, accounting for the need to increase NASA's institutional capability for conducting EVM and analyzing and reporting the data. In fiscal year 2013, NASA started a phased rollout at selected centers to increase the agency's EVM capacity by implementing its EVM Capability process at projects at those centers. According to NASA officials, as future projects at those centers implement EVM, they expect centers will follow the agency EVM process, which will better ensure that they are using systems which are compliant with ANSI/EIA-748.

- In August 2014, NASA addressed concerns we raised about the SLS by taking actions to balance the program's cost and schedule risk in line with agency policies. At the time of our report in July 2014, we found that NASA's funding plan for the first test flight of SLS in December 2017 was insufficient to meet needs. [22] We recommended that the program match resources to requirements that would result in a level of risk in line with NASA policy by—for example—establishing cost and schedule baselines that supported a joint cost and schedule confidence level (JCL) of 70 percent. We indicated that NASA could, for example, increase funding or delay the scheduled launch date to reduce risks and meet the 70 percent JCL. In August 2014, the program addressed our concerns by establishing its agency cost and schedule baselines at a 70 percent JCL of $9.7 billion with a launch readiness date of November 2018.

GAO Contact

For additional information about this high-risk area, contact Cristina T. Chaplain at (202) 512-4841 or chaplainc@gao.gov.

Related GAO Products

James Webb Space Telescope: Project Meeting Cost and Schedule Commitments but Continues to Use Reserves to Address Challenges. GAO-17-71. Washington, D.C.: December 7, 2016.

[22]GAO, *Space Launch System: Resources Need to be Matched to Requirements to Decrease Risk and Support Long Term Affordability*, GAO-14-631 (Washington, D.C.: July 23, 2014).

Orion Multi-Purpose Crew Vehicle: Action Needed to Improve Visibility into Cost, Schedule, and Capacity to Resolve Technical Challenges. GAO-16-620. Washington, D.C.: July 27, 2016.

NASA Human Space Exploration: Opportunity Nears to Reassess Launch Vehicle and Ground Systems Cost and Schedule. GAO-16-612. Washington, D.C.: July 27, 2016.

NASA: Assessments of Major Projects. GAO-16-309SP. Washington, D.C.: March 30, 2016.

James Webb Space Telescope: Project on Track but May Benefit from Improved Contractor Data to Better Understand Costs. GAO-16-112. Washington, D.C.: December 17, 2015.

Space Launch System: Management Tools Should Better Track to Cost and Schedule Commitments to Adequately Monitor Increasing Risk. GAO-15-596. Washington, D.C.: July 16, 2015.

NASA: Assessments of Selected Large-Scale Projects. GAO-15-320SP. Washington, D.C.: March 24, 2015.

DOD Contract Management

Why Area Is High Risk

The Department of Defense (DOD) obligated $273.5 billion in fiscal year 2015 on contracts for goods and services, including major weapon systems, support for military bases, information technology, consulting services, and commercial items. Contracts also include those supporting contingency operations, such as those in Afghanistan. DOD is, by far, the single largest contracting agency in the federal government, typically accounting for about two-thirds of all federal contracting activity. Our work and that of others, however, has identified challenges DOD faces within three segments of contract management: (1) the acquisition workforce, (2) service acquisitions, and (3) operational contract support (OCS). Ensuring DOD has the people, skills, capacities, tools, and data needed to make informed acquisition decisions is essential if DOD is to effectively and efficiently carry out its mission in an era of more constrained resources. We added this area to our High-Risk List in 1992.

What GAO Found

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

Senior DOD leadership remains committed to addressing its contract management challenges and, in particular, has made significant progress in addressing OCS issues since 2015. For example, DOD held meetings

of its senior executive level governance forum to institutionalize OCS, issued revised guidance, and made progress in incorporating OCS concepts into operational plans. Further, DOD has taken steps to address education and training shortfalls and has dedicated additional training resources to enhance OCS. DOD also updated its action plan for OCS, which includes both revised and new tasks with measurable metrics and milestones. As a result of these actions, for the OCS subarea, we have raised our assessments for capacity to partially met and consider DOD to have met our criterion for having an action plan.

DOD has also 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. As a result of these actions, we have raised the action plan criterion for the acquisition workforce subarea to partially met. DOD acknowledged, however, that it will need to develop and implement metrics to track progress toward 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.

Congress has also taken action to help improve the acquisition workforce. In the National Defense Authorization Act for Fiscal Year 2016, Congress made permanent the requirement for the military departments and defense agencies to remit $500 million for each fiscal year to the Defense Acquisition Workforce Development Fund (DAWDF)—a fund used by DOD to increase hiring and provide additional training. This enabled critical support for acquisition workforce development initiatives for DOD.

While DOD continues to take action to improve how it manages services acquisitions, demonstrated progress was more limited. In January 2016, DOD issued a new instruction for service acquisitions that provides a management structure for acquiring services and identifies the roles and responsibilities of key leadership positions, but DOD still lacks an action plan that will enable it to assess progress toward achieving its goals, and efforts to identify goals and associated metrics are still in the early stages of development.

One critical element in improving services acquisition is to know what the department is buying today and what it intends to buy in the future. We found that while data on future service acquisitions are generally

maintained by DOD program offices, DOD and military department guidance does not require that data to be specifically identified in DOD's budget forecasts. In that regard, DOD's January 2016 service acquisition instruction includes requirements to generate data on anticipated future service acquisition spending, but this requirement does not clearly identify what level of detail should be collected, leaving DOD at risk of developing inconsistent data between each military department.

What Remains to Be Done

To further improve outcomes on the billions of dollars spent annually on goods and services, DOD needs to take the following actions.

- Continue efforts, including strategic planning and aligning funding, to increase the department's capacity to negotiate, manage, and oversee contracts by ensuring that its acquisition workforce is appropriately sized and trained to meet the department's needs.
- Determine the appropriate mix of military, civilian, and contractor personnel. To assist with this, DOD needs to make decisions about the department's approach for compiling its inventory of contracted services and defining the roles and responsibilities of those involved with the inventory.
- Strategically manage how it acquires services by defining desired outcomes, establishing goals and measures, and obtaining data needed to measure progress. To enhance available information on service acquisitions, the military departments should revise programming guidance to collect information on how contracted services will be used to meet requirements beyond the budget year.
- Sustain efforts throughout the department to integrate OCS through policy, planning, training, and application of necessary resources for both current and future contingency operations.

Listed below are additional recommendations that need to be addressed:

- In December 2015, we recommended that DOD update its acquisition workforce plan, including revising career field goals. DOD concurred with our recommendation. In October 2016, DOD issued an updated acquisition workforce strategic plan which, among other things, assessed the current capacity and capability of the workforce and identified the risks that DOD needed to manage to meet future needs. The updated workforce plan also established four strategic goals, approved by the Defense Acquisition Workforce Senior Steering

Board, to guide future efforts, including shaping the acquisition workforce to achieve current and future acquisition requirements. The October 2016 plan did not, however, establish specific career field goals or targets for its 13 career fields, including priority career fields where it has not met its targets, such as contracting, business, and auditing, which will hinder efforts to ensure that DOD has the right people with the right skills to meet future needs.

- In June 2013, we recommended that DOD identify baseline data on the status of service acquisitions, develop specific goals associated with their actions to improve service acquisitions, and establish metrics to assess progress in meeting these goals. DOD concurred with our recommendations and is developing service acquisition goals and metrics as well as an action plan for improving service acquisition.
- In relation to strategic sourcing—a process of moving away from numerous individual procurements to a broader aggregate approach—in September 2012, we recommended that the department issue direction that sets goals for spending managed through strategic sourcing vehicles, establishes procedures for tracking strategic sourcing efforts, and establishes metrics to track progress toward these goals. We also recommended that DOD identify and evaluate the best way to strategically source DOD's highest spending categories. DOD concurred with these two priority recommendations and has been working with the Office of Management and Budget's Category Management Leadership Council to determine appropriate strategic sourcing goals, but specific goals and corresponding metrics have not yet been established. DOD officials stated that appointing senior officials to manage the acquisition of services should help DOD further expand strategic sourcing efforts for high-spend service categories. As of October 2016, however, many of these efforts are in the early stages of implementation.
- We noted in our 2015 high-risk report that DOD's top leadership has taken significant steps to plan and monitor progress in the management and oversight of contracting techniques and approaches. For example, we noted that DOD had been using its Business Senior Integration Group—the Under Secretary of Defense for Acquisition, Technology, and Logistics' executive-level leadership forum for providing oversight in the planning, execution, and implementation of DOD's Better Buying Power initiatives—as a mechanism to review ongoing and emerging issues, including competition. It is important for DOD to continuously promote

competition, which is a critical tool for achieving the best possible return on investment for taxpayers.

In addition, congressional action is needed to enhance visibility into DOD's planned spending on contract services. In February 2016, we found that, unlike DOD budget exhibits for weapon systems, DOD's other budget exhibits which contain information on contracted services do not include data on projected spending beyond the current budget year. Without a roadmap of future projected service contract spending needs, Congress has limited visibility into an area that constitutes more than half of DOD's annual contract spending. Given that the intent of section 235 of Title 10 United States Code was to provide both DOD and Congress with increased oversight of the procurement of services, we suggested that Congress should consider amending reporting requirements to include estimated spending on services beyond the budget year.

Additional Details on What GAO Found

DOD's Management of Its Acquisition Workforce

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

Leadership Commitment

DOD has met this criterion by implementing its Better Buying Power initiative—which included specific actions to improve the professionalism of the acquisition workforce—and through continued efforts to sustain and

train the workforce in times of budget constraints and cost-cutting pressures. For example, in June 2016, the Under Secretary of Defense for Acquisition, Technology and Logistics stated that DOD intends to sustain the acquisition workforce at current levels and continue to improve its professionalism. Similarly, DOD's October 2016 acquisition workforce strategic plan stated that DOD must sustain the acquisition workforce size, factoring in workload demand and requirements; ensure its personnel continue to increase their professionalism, and continue to expand talent management programs to include recruitment, hiring, training, development, recognition, and retention incentives by using DAWDF and other appropriate tools. DOD components plan to spend more than $3.0 billion in DAWDF funding between fiscal years 2018 through 2022 in support of these objectives.

Capacity

DOD has partially met this criterion. Since 2015, DOD has continued to increase the size of the acquisition workforce by about 2,000 acquisition personnel. Overall, the size of its military and civilian acquisition workforce grew by about 26 percent—from close to 126,000 to more than 158,000 between September 2008 and March 2016—or about 12,000 more than the target identified in DOD's April 2010 acquisition workforce plan. While DOD met the overall acquisition growth goal, it did not accomplish the goals set for some career fields. The plan indicated that targeted growth in 5 of these priority career fields—auditing, business, contracting, engineering, and program management—would help DOD strategically reshape its acquisition workforce. As of March 2016, our analysis shows that DOD met or exceeded its planned growth for 8 career fields by about 12,500 personnel, including the priority career fields of program management and engineering, but fell short by about 2,800 personnel in 5 other career fields, including the priority career fields of contracting, business, and auditing. DOD has also used DAWDF to increase hiring and provide for additional training. In the National Defense Authorization Act for Fiscal Year 2016, Congress further enabled critical support for acquisition workforce development initiatives by making permanent the requirement for the military departments and defense agencies to remit $500 million for each fiscal year to the fund.

Increasing the number of people performing acquisition work is only part of DOD's strategy to improve the capability of its workforce; another part is ensuring that the workforce has the requisite skills and tools to perform their tasks. DOD developed a five-phase process that included surveys of its employees to assess the skills of its workforce and to identify and

close skill gaps. DOD completed competency assessments for 12 of its 13 career fields and is developing new training classes to address some skill gaps. However, DOD has not determined the extent to which workforce skill gaps identified in initial career field competency assessments have been addressed and what workforce skill gaps currently exist. In our December 2015 report, we recommended that DOD establish time frames to conduct follow-up career field competency assessments so that it can determine if skill gaps are being addressed.[1] DOD agreed with the recommendation. The department's October 2016 acquisition workforce strategic plan stated that career field competency assessments should be conducted at a minimum of every 5 years, but it is too soon to tell whether DOD will conduct these assessments as recommended in its workforce plan.

Action Plan

DOD has now partially met this criterion. The National Defense Authorization Act for Fiscal Year 2010 required DOD to develop and submit to Congress a strategic plan for DOD's acquisition workforce, to be updated biennially.[2] In a December 2015 report, we found that DOD had exceeded its workforce growth target established in 2010 and was focused on sustaining the size of its acquisition workforce.[3] We noted that an updated workforce plan that included revised career field goals, coupled with guidance on how to use DAWDF, could help DOD components focus future hiring efforts on priority career fields. Without an integrated approach, we concluded that the department would be at risk of using the funds to hire personnel in career fields that currently exceed their targets or are not considered a priority. Therefore, we recommended that DOD update its acquisition workforce plan, including revising career field goals, so that it could ensure that the most critical acquisition needs are being met. DOD officials agreed with our recommendation. In October 2016, DOD issued an updated acquisition workforce strategic plan which, among other things, assessed the current capacity and capability of the workforce and identified the risks that DOD needed to manage to meet future needs. The updated workforce plan also established four strategic goals, approved by the Defense Acquisition Workforce Senior Steering

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

[2]This requirement was repealed in the National Defense Authorization Act for Fiscal Year 2017. Pub. L. No. 114-328, § 1102.

[3]GAO-16-80.

Board, to guide future efforts, including shaping the acquisition workforce to achieve current and future acquisition requirements.[4] The October 2016 plan did not, however, establish specific career field goals or targets, which will hinder efforts to ensure that DOD has the right people with the right skills to meet future needs.

We also continue to find that DOD faces challenges in meeting its statutory requirement to prepare an annual inventory of contracted services—one that could help it make more strategic decisions about the right workforce mix of military, civilian, and contractor personnel and better align resource needs through the budget process to achieve that mix. Specifically, in October 2016, we found DOD faced continued delays in (1) deciding on the path forward for its underlying data collection system for the inventory of contracted services, (2) staffing its inventory management support office, and (3) formalizing roles and responsibilities of that office and stakeholders.[5] These continued delays hinder DOD's ability to use the inventory to inform workforce and budget decision-making processes.

Monitoring

DOD has partially met this criterion. DOD acknowledged that it will need to develop and implement metrics to track progress toward meeting the four strategic goals identified in its October 2016 strategic workforce plan, including those related to shaping the future acquisition workforce. DOD, however, has been tracking workforce growth against targets established in 2010, as well as other metrics, such as those related to education and training.

Demonstrated Progress

DOD has partially met this criterion. The metrics show that the department has exceeded its overall acquisition workforce growth target and education and training rates have increased significantly since 2008. For example, in its October 2016 acquisition workforce plan, DOD reported that the number of personnel with bachelor's degrees or higher increased from 77 percent in fiscal year 2008 to 84 percent in fiscal year

[4]The other three strategic goals include (1) making DOD an employer of choice, (2) improving the quality and professionalism of the acquisition workforce, and (3) improving workforce policies, programs, and processes.

[5]GAO, *DOD Inventory of Contracted Services: Timely Decisions and Further Actions Needed to Address Long-Standing Issues,* GAO-17-17 (Washington, D.C.: Oct. 31, 2016).

2015, while those with graduate degrees increased from 29 percent to 39 percent over the same period. DOD also reported that more than 96 percent of the acquisition workforce either met or was on track to meet certification requirements within required time frames. DOD has not, however, verified that the current composition of the workforce will meet its future workforce needs.

Improving DOD's Acquisition of Services

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

Leadership Commitment

DOD has demonstrated sustained leadership commitment in improving its approach to managing the acquisition of services, which accounted for more than 50 percent of DOD's contract obligations in fiscal year 2015, and has met this criterion. This commitment is reflected in DOD's issuance in January 2016 of a service acquisition instruction, which established policy, assigned responsibilities, and provided procedures for defining, assessing, reviewing, and validating requirements for the acquisition of services. This instruction, which provides a management structure for acquiring services, builds on DOD's efforts to improve how it acquires services that were contained in its Better Buying Power initiative. We are currently assessing the actions the military departments are taking to implement the service acquisition instruction.

Capacity

DOD has partially met this criterion by establishing a number of management and oversight positions intended to address its capacity for strategically managing the acquisition of services. These include designating the Principal Deputy Under Secretary of Defense for Acquisition, Technology, and Logistics as the department's senior manager for service acquisition in 2013, as well as building capacity to address service acquisition issues by designating a senior manager for service acquisitions in each military department. We are currently assessing the effects of these new positions.

Action Plan

DOD has not met this criterion. DOD does not have an action plan that would enable it to assess progress toward achieving its goals, and its efforts to develop goals and associated metrics unique to each category of service it acquires are also in the early stages of development.

Monitoring

DOD has partially met this criterion. Because DOD lacks an action plan, it is not yet positioned to fully assess its progress in improving service acquisition. A key element to being more strategic in acquiring services is knowing how and where service acquisition dollars are currently being spent and how those dollars will be spent in the future. We found in February 2016 that program offices within each of the military departments that we met with maintained data on current and estimated future spending needs for contracted service requirements, but they did not identify service contract spending needs beyond the next year, as they were not required to do so.[6] We recommended that the military departments revise their programming guidance to collect information that is already available on how contracted services will be used to meet requirements beyond the budget year.

We also recommended that DOD establish a mechanism, such as a working group of key stakeholders, to coordinate these efforts. DOD partially concurred with these two priority recommendations, citing challenges in estimating future spending, but as of July 2016, had

[6]GAO, *DOD Service Acquisition: Improved Use of Available Data Needed to Better Manage and Forecast Service Contract Requirements,* GAO-16-119 (Washington, D.C.: Feb. 18, 2016).

generally not taken action to address them. In February 2016, however, the Army included service contract reporting requirements in its Command Program Guidance Memorandum for fiscal years 2018-2022. The memorandum instructs Army commands and operating agencies to document all current and future requirements for contracted services for fiscal years 2018-2022. In its memorandum, the Army noted that this data will provide transparency over contracted services funding and requirements and enable the Army to track dollars programmed for services. Further, the Army stated that this effort will provide data that can be used to make resource decisions and inform processes that determine workload requirements and assess the appropriate mix of military, civilian, and contractors to execute workload requirements.

In addition, DOD has made progress in acquiring services through strategic sourcing but has more to do to improve monitoring. For example, in September 2015, we found that each of the military departments we reviewed had designated officials responsible for strategic sourcing and created offices to identify and implement strategic sourcing opportunities, including those specific to information technology services.[7] The military departments did not monitor spending or establish savings goals and metrics for the use of their preferred strategic sourcing contracts for information technology services, which resulted in most of their dollars for information technology services being obligated through hundreds of potentially duplicative contracts that diminished the government's buying power and resulted in missed opportunities to achieve savings and obtain other benefits.

Demonstrated Progress

DOD has partially met this criterion. The January 2016 DOD services acquisition instruction included additional requirements to generate data on past and anticipated future service acquisition spending, but did not clearly identify what level of detail should be collected, leaving the department at risk of developing inconsistent data between each military department and limiting DOD leadership's insight into future spending on contracted services. DOD plans to develop service acquisition related goals and metrics in fiscal year 2017 to develop additional baseline data to gauge progress. As DOD and the military departments mature efforts to develop more refined data on past and future service contract spending

[7]GAO, *Strategic Sourcing: Opportunities Exist to Better Manage Information Technology Services Spending,* GAO-15-549 (Washington, D.C.: Sept. 22, 2015).

and develop specific goals related to each, DOD will be better positioned to assess its progress.

Addressing Challenges Related to Operational Contract Support

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

Leadership Commitment

DOD has met this criterion by continuing to demonstrate sustained commitment and strong leadership support in addressing OCS issues. DOD held its first OCS Summit in October 2015, attended by senior leaders from across the department, to review and discuss strategies to better formalize capability and capacity in the Joint Force. DOD officials are planning to host a similar forum in 2017. Additionally, the Functional Capabilities Integration Board serves as a single senior executive-level governance forum for OCS issues. It convenes quarterly, or as required, providing strategic leadership to multiple stakeholders working to institutionalize OCS.

Capacity

DOD has partially met this criterion. Specifically, DOD has made progress toward addressing agency capacity by identifying several actions to develop its personnel and training resources since our last high-risk update. The July 2014 update to the Joint Staff's primary OCS guidance,

according to DOD officials, changed doctrine and obviated the results of an earlier study that had found capacity shortfalls in OCS positions. Subsequently, according to officials, in September 2016 the Office of the Secretary of Defense established a joint OCS Policy Working Group to clarify and refine OCS policy. Also, DOD officials told us, in October 2016, that DOD is pursuing a joint OCS capacity review process to implement corrective actions to address OCS shortfalls in personnel, education, training, and materiel and to better incorporate OCS requirements. Joint Staff also identified priority items that combatant commanders should consider emphasizing in their training and exercise programs to improve OCS capacity.

Action Plan

DOD has made significant progress in addressing the action plan criterion and has met this criterion. In September 2016, DOD issued its fourth iteration of the OCS Action Plan, which is organized around 10 capability gaps that needed to be closed in order to effectively institutionalize OCS capability and is DOD's primary mechanism for monitoring and validating the effectiveness and sustainability of those tasks. We found, in February 2015, that the 2014 Action Plan lacked performance measures or metrics to evaluate if actions taken had filled the capability gaps. DOD's 2016 action plan, however, revised tasks and added new tasks to include measurable metrics and provided a cross-walk to show the status of the tasks. For example, the 2016 plan shows 90 tasks completed or deleted from the preceding years. Further, the 2016 plan highlighted a number of other ongoing efforts, such as initiating a new joint capability requirements document and process that, if approved, may accelerate significant changes across DOD.

Monitoring

DOD has partially met this criterion. Each task identified in the 2016 Action Plan has a deliverable or outcome measured against a target completion date, and a senior-level board serves as the primary monitor for these performance targets. Moreover, the 2016 Action Plan included a new annex managed by the Joint Staff logistics directorate to capture subtasks that supplement the 36 overarching tasks in the DOD action plan. However, some of these subtasks are not clearly defined and will be difficult to monitor. For example, one subtask associated with a gap—personnel being insufficiently aware of the significance of OCS—suggests the need for an enduring culture change, but it is unclear how DOD will monitor this effort.

Demonstrated Progress

DOD has partially met this criterion. DOD continues to make progress in incorporating OCS concepts into plans and addressing education and training shortfalls. For example, we found, in December 2015, that U.S. Africa Command developed some annexes to plans that generally contained key considerations discussed in Joint Staff and other DOD guidance such as force protection, host nation agreements, and contractor oversight.[8] Additionally, Joint Staff has revised the Universal Joint Tasks—which support DOD in conducting training and exercises—incorporating lessons learned related to OCS and new doctrine identified in Joint Publication 4-10.

However, DOD has not implemented several priority recommendations related to OCS guidance. For example, we reported, in February 2013, that the Navy, Marine Corps, and Air Force have not developed comprehensive guidance, limiting the military departments' planning efforts to accurately reflect how they use contract support.[9] We recommended that DOD direct the Navy and Air Force to provide service-wide guidance for the Navy, Marine Corps, and Air Force that describes how each service should integrate OCS into its respective organization to include planning for contingency operations. DOD concurred with this priority recommendation.

Since that time, the Marine Corps has developed guidance and definitions within the Marine Corps Capabilities List, and the Air Force has issued a memorandum on OCS integration and updated existing guidance to include OCS concepts. OSD officials told us, in December 2016, that Navy planners are drafting an OCS instruction for internal review, which they estimate will be completed in the summer of 2017. However, the September 2016 OCS Action Plan reflects the target publication date as the first quarter of fiscal year 2017.

In March 2015, we recommended that DOD revise existing guidance to detail the roles and responsibilities of the military departments in

[8]GAO, *Operational Contract Support: Additional Actions Needed to Manage, Account for, and Vet Defense Contractors in Africa,* GAO-16-105 (Washington, D.C.: Dec. 17, 2015).

[9]GAO, *Warfighter Support: DOD Needs Additional Steps to Fully Integrate Operational Contract Support into Contingency Planning,* GAO-13-212 (Washington, D.C.: Feb. 8, 2013).

collecting OCS lessons learned.[10] We also recommended that DOD direct the Navy and Air Force to include the military departments' roles and responsibilities to collect OCS lessons learned in military department specific guidance on how the Navy, Marine Corps, and Air Force should integrate OCS. DOD concurred with these priority recommendations, and, according to senior DOD officials, the department is revising a DOD instruction and directive to address these recommendations.

In addition, the 2016 action plan identified foreign vendor vetting as a significant issue that should replace base access as a capability gap. DOD also noted that addressing this potential gap will likely require support from beyond the OCS community. Specifically, according to DOD officials, the OCS community of interest determined that the issue of vendor vetting is outside the responsibility and expertise of the OCS community. DOD established a separate working group on vendor vetting to address this issue. However, DOD has not developed comprehensive guidance on foreign vendor vetting, as we previously recommended.

In December 2015, we recommended that the department develop guidance that clarifies the conditions under which combatant commands should have a foreign vendor vetting process or cell in place to determine whether potential vendors actively support any terrorist, criminal, or other sanctioned organization.[11] DOD concurred with this priority recommendation, stating that the Office of the Secretary of Defense in collaboration with the Joint Staff had established a joint working group to identify key stakeholders and develop DOD policy requiring combatant commands to develop processes for vetting foreign vendors. As of December 2016, the department was in the process of preparing a directive type memorandum to the military departments and combatant commands with additional information. According to officials, DOD continues to gain stakeholder support and assess and analyze vendor vetting issues, in order to develop comprehensive guidance, as we previously recommended.

[10]GAO, *Operational Contract Support: Actions Needed to Enhance the Collection, Integration, and Sharing of Lessons Learned,* GAO-15-243 (Washington, D.C.: Mar. 16, 2015).

[11]GAO-16-105.

Benefits Achieved by Implementing Our Recommendations

- In February 2016, we recommended that the military departments revise their programming guidance to collect information on how contracted services will be used to meet requirements beyond the budget year. DOD partially concurred with this recommendation, citing challenges with accurately quantifying service contract requirements beyond the budget year. In its February 2016 Command Program Guidance Memorandum, the Army required all its organizations to provide contract service requirements data for fiscal years 2018-2022, including all current and planned requirements. The Army recognized that this will enable the Army and its commands to analyze contract service requirements and execution trends and allow the Army to prioritize growth or reductions to specific contract service requirements.
- In March 2010, we recommended that DOD update its planning guidance to address the potential need for contractor support where appropriate.[12] DOD concurred with this recommendation. In October 2012, the Chairman of the Joint Chiefs of Staff issued updated guidance on operational planning which contains information related to planning for contracted support. As a result of this change in guidance, senior DOD leaders will have a better understanding of how the department relies on contractors as it undertakes contingency operations, and will be more attuned to the potential risks of using contractors and better prepared to manage those risks.

GAO Contact

For additional information about this high-risk area, contact Timothy J. DiNapoli at (202) 512-4841 or dinapolit@gao.gov.

Related GAO Products

DOD Inventory of Contracted Services: Timely Decisions and Further Actions Needed to Address Long-Standing Issues. GAO-17-17. Washington, D.C.: October 31, 2016.

[12]GAO, *Warfighter Support: DOD Needs to Improve Its Planning for Using Contractors to Support Future Military Operations,* GAO-10-472 (Washington, D.C.: Mar. 30, 2010).

DOD Service Acquisition: Improved Use of Available Data Needed to Better Manage and Forecast Service Contract Requirements. GAO-16-119. Washington, D.C.: February 18, 2016.

Operational Contract Support: Additional Actions Needed to Manage, Account for, and Vet Defense Contractors in Africa. GAO-16-105. Washington, D.C.: December 17, 2015.

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

DOD Inventory of Contracted Services: Actions Needed to Help Ensure Inventory Data are Complete and Accurate. GAO-16-46. Washington, D.C.: November 18, 2015.

DOD Contract Services: Improvements Made to Planning and Implementation of Fiscal Controls. GAO-15-780. Washington, D.C.: September 30, 2015.

Strategic Sourcing: Opportunities Exist to Better Manage Information Technology Services Spending. GAO-15-549. Washington, D.C.: September 22, 2015.

Operational Contract Support: Actions Needed to Enhance the Collection, Integration, and Sharing of Lessons Learned. GAO-15-243. Washington, D.C.: March 16, 2015.

Contingency Contracting: Contractor Personnel Tracking System Needs Better Plans and Guidance. GAO-15-250. Washington, D.C.: February 18, 2015.

Enforcement of Tax Laws

Why Area Is High Risk

The Internal Revenue Service (IRS) continues to demonstrate top leadership support for improving tax compliance and addressing the tax gap. However, IRS's capacity to implement new initiatives, carry out ongoing enforcement and taxpayer service programs, and combat identity theft (IDT) refund fraud under an uncertain budgetary environment remains a challenge. Enforcement of the tax laws helps fund the U.S. government. IRS enforcement collects revenue from noncompliant taxpayers and, perhaps more importantly, promotes voluntary compliance by giving taxpayers confidence that others are paying their fair share. In 2016, IRS estimated that the average annual gross tax gap—the difference between taxes owed and taxes paid on time—was $458 billion for tax years 2008-2010. IRS is able to recover a portion of the tax gap. In 2016, IRS estimated that it will eventually collect $52 billion of the tax gap through enforcement actions and late payments, leaving an annual estimated net tax gap of $406 billion for tax years 2008-2010.

In 2015, we expanded the enforcement of tax laws high-risk area to include IRS's efforts to address tax refund fraud due to IDT, which occurs when an identity thief files a fraudulent tax return using a legitimate taxpayer's identifying information and claims a refund. According to IRS, it estimates that at least $14.5 billion in IDT tax refund fraud was attempted in tax year 2015, of which it prevented at least $12.3 billion (85 percent). Of the amount attempted, IRS estimated that at least $2.2 billion (15 percent) was paid.[1]

[1]Because of the difficulties in estimating the amount of undetectable fraud, the actual amount could differ from these estimates.

What GAO Found

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

As previously mentioned, IRS continues to demonstrate top leadership support for improving tax compliance and addressing the tax gap. For example, it continues to research the extent and causes of taxpayer noncompliance, and released an updated tax gap estimate in April 2016. The agency has also taken steps to address IDT refund fraud, such as increasing the number of staff and resources dedicated to combating this issue. IRS has now partially met the criterion for capacity with respect to combating IDT refund fraud. But as also cited above, IRS's capacity to implement new initiatives, carry out ongoing enforcement and taxpayer service programs, and combat IDT refund fraud under an uncertain budgetary environment remains a challenge. Annual appropriations increased by $290 million between fiscal years 2015 ($10.9 billion) and 2016 ($11.2 billion), but remain about $900 million (about 7 percent) below fiscal year 2011 levels ($12.1 billion).

IRS continues to take actions toward meeting three other criteria for removal from our High-Risk List: developing a corrective action plan, monitoring, and demonstrating progress. For example, IRS's strategic plan includes general approaches to make voluntary compliance easier for taxpayers. IRS also has a strategic plan that identifies refund fraud and IDT as challenges facing the nation's tax system over the next several years. However, IRS has not yet implemented some of our recommendations highlighted in the 2015 high-risk report that could help

it improve its corrective action plan, such as better measuring return-on-investment (ROI), better leveraging automated processes, and improving enforcement data. Also, for some compliance initiatives, such as those related to the Foreign Account Tax Compliance Act or the Patient Protection and Affordable Care Act (PPACA), IRS will need to continue to focus on measuring results and the effect of these initiatives on the tax gap.

While IRS has developed research efforts to assess its IDT defense effectiveness, the agency needs to do more to demonstrate progress. Due in part to substantial methodological changes used to estimate the amount of IDT refund fraud prevented, year over year comparisons in IRS's estimates of IDT refund fraud prevented and paid are not comparable. In addition, the agency has yet to address key weaknesses in authenticating taxpayers. While IRS is taking steps to improve authentication, it will still be vulnerable until it completes and uses the results of its analysis of costs, benefits, and risk to inform decision-making.

Although more needs to be done, Congress and IRS have taken steps to implement a number of our recommendations that have resulted in benefits. For example, Congress passed legislation targeted at further strengthening tax law enforcement, including the Tax Equity and Fiscal Responsibility Act (TEFRA), which will improve the efficiency of partnership audits. Congress also passed legislation that will increase tax compliance through improved third-party reporting requirements, strengthened controls over higher education tax benefits to reduce inaccurate claims, and provided IRS with authority to correct errors related to the First-Time Home Buyer's Credit. IRS and congressional actions based on our work in this area resulted in a total financial savings of approximately $7.8 billion between 2011 and 2016 and an estimated $12.5 billion in additional revenue over the next 8 years.

What Remains to Be Done

Enforcing Tax Laws

IRS should implement our open recommendations, especially those that focus on improving audit effectiveness, taxpayer services, and resource investment decision making and oversight. Specifically, IRS should:

- continue to develop and implement a long-term strategy to address operations amidst an uncertain budget environment;
- determine resource allocation strategies for its enforcement efforts such as large partnership audits;
- assess the performance of its information technology (IT) investments as well as improve its IT security and online web services;
- develop a strategy for better identifying partnership noncompliance and assessing the effectiveness of exam selection;
- strengthen referral programs so whistleblowers and other stakeholders can more easily submit information to IRS about tax noncompliance; and
- enhance taxpayer services by developing a long-term strategy for providing web-based services to taxpayers, and improve telephone service by establishing a customer service standard and identifying resources needed to achieve that standard.

IDT Refund Fraud

With regard to IDT refund fraud, IRS should implement our open recommendations, including

- identifying and addressing authentication risks associated with the Taxpayer Protection Program;
- estimating and documenting the costs, benefits, and risks of possible options for taxpayer authentication; and
- improving third-party partnership programs.

Congressional Actions Needed

Given that the tax gap has been a persistent issue, we have previously reported that reducing it will require targeted legislative actions, including the following:

- **Additional third-party information reporting**. Taxpayers are much more likely to report their income accurately when the income is also reported to IRS by a third party. In 2008 and 2009, we suggested Congress consider expanding third-party information reporting to include payments for services to rental real estate owners and payments for services provided by corporations, respectively. In 2010, the Joint Committee on Taxation estimated that, for a 10-year period,

tax compliance could potentially increase by $2.5 billion if third parties reported rental real estate service payments, and $3.4 billion if third parties reported service payments to corporations. Congress enacted a more expansive regime in 2010 covering reporting of payments for goods as well as services, and subsequently repealed these provisions.

- **Enhanced electronic filing**. Requiring additional taxpayers to electronically file tax and information returns could help IRS improve compliance efficiently. Current law requires entities that file more than 250 returns during a year or partnerships with more than 100 partners to file electronically.[2] In 2014, we suggested that Congress consider expanding the mandate for partnerships and corporations to electronically file their tax returns, as this could help IRS reduce return processing costs, select the most productive tax returns to examine, and examine fewer compliant taxpayers.

Increased electronic filing would also allow IRS to obtain timely, accurate data from a significant number of additional employers, and could further enhance the benefits IRS could obtain from the accelerated Wage and Tax Statement (W-2) deadline and prerefund W-2 matching. Treasury has requested authority to reduce the current 250-return threshold for employers electronically filing information returns. In 2014, we suggested that Congress consider authorizing Treasury to lower the threshold for electronic filing of W-2s from 250 returns annually to between 5 to 10 returns, as appropriate.

- **Math error authority.** Providing IRS with correctible authority with appropriate safeguards to permit it to correct errors in cases where information provided by the taxpayer does not match information in government databases, among other things, could help IRS correct additional errors and avoid burdensome audits and taxpayer penalties. Congress enacted legislation in December 2015 that expands the circumstances in which IRS may use math error authority in some situations for selected refundable tax credits.[3] While expanding math error authority is consistent with what we have previously suggested, we had suggested that math error authority be authorized on a broader basis with appropriate controls rather than on a piecemeal basis, and that controls may be needed to ensure that this authority is used properly. Our prior work identified potential

[2]26 U.S.C. § 6011(e)(2).

[3]Pub. L. No. 114-113, div. Q, title II, §§ 203(e), 208(b), 129 Stat. 2242, 3080, 3084 (Dec. 18, 2015).

controls, such as requiring IRS to report on its use of math error authority.

- **Paid preparer regulation**. Establishing requirements for paid tax return preparers could improve the accuracy of the tax returns they prepare. In 2014, we suggested Congress consider granting IRS the authority to regulate paid tax preparers, if it agrees that significant paid preparer errors exist. The Joint Committee on Taxation estimated that legislation to regulate paid preparers would increase tax compliance by $135 million in revenue through fiscal year 2025.
- **Tax reform and simplification**. A broader opportunity to address the tax gap involves simplifying the Internal Revenue Code, as complexity can confuse taxpayers and provide opportunities to hide willful noncompliance. Fundamental tax reform could result in a smaller tax gap if the new system has fewer tax preferences or complex tax code provisions; such reform could reduce IRS's enforcement challenges and increase public confidence in the tax system. Short of fundamental reform, targeted simplification opportunities also exist. Amending the tax code to define terms more consistently across tax provisions could help taxpayers more easily understand and comply with their obligations and get the maximum tax benefit for their situations. For example, there are several provisions in the tax code benefiting taxpayers' educational expenses, but the definition of what qualifies as a higher-education expense varies between these tax expenditures.

Additional Details on What GAO Found

Enforcement of Tax laws

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

Leadership Commitment

IRS has met the criterion of demonstrating a strong commitment to, and top leadership support for, improving tax compliance and addressing the tax gap. Some steps IRS has taken include the following:

- IRS adopted a new, more strategic approach to identifying and selecting budget program priorities. IRS prioritized a subset of its 19 strategic objectives for action and established six themes that represent its “future state” vision for tax administration. In the fiscal year 2017 congressional justification, IRS linked requests for increased funding to the themes and included details on how much would be funded by each appropriation account. IRS also identified enterprise goals to guide the IRS toward the future state. However, as of December 2016, IRS has yet to set targets for meeting the goals, but plans to have targets in place by June 2017.
- IRS has continued to research the extent and causes of taxpayer noncompliance. We have consistently stressed the importance of IRS conducting tax compliance research.
- IRS extended a program to encourage taxpayers to voluntarily report their previously undisclosed foreign accounts and assets. IRS has

collected over $10 billion since this program was initiated in 2009, and has implemented some of our recommendations on better managing the program.

Capacity

IRS has not met the criterion of having the capacity to demonstrate progress toward improving compliance and addressing the tax gap. IRS's ability to carry out ongoing enforcement programs and implement new initiatives to improve tax law enforcement, such as those required by PPACA, could be challenged under an uncertain budget environment. IRS is further challenged because it does not calculate ROI estimates for each enforcement program— information IRS could use to inform resource allocation decisions. IRS has also not determined how to best leverage automated processes and stakeholders such as whistleblowers.

Between fiscal years 2011 and 2016, IRS's annual appropriations declined about $900 million.[4] Likewise, staffing has declined: full-time equivalent staff members funded by annual appropriations declined by 12,000 between fiscal year 2011 and fiscal year 2016, a 13 percent reduction. At the same time, IRS's enforcement performance has declined. For example, the individual examination (or audit) coverage rate declined by 20 percent from fiscal years 2013 to 2015—the most recent years available. Reductions in examinations can reduce revenue collected and may indirectly reduce voluntary compliance. These declines have also contributed to fluctuations in taxpayer service and longer wait times on the phones than taxpayers have historically experienced.

Action Plan

IRS partially meets the criterion for having a corrective action plan to improve tax compliance and address the tax gap. Specifically, IRS has a strategic plan that discusses general approaches to make voluntary compliance easier for taxpayers and to ensure taxes owed are paid. However, in some areas, the plan does not include specific tactics for improving compliance strategies. We have identified and made recommendations in several areas that could help IRS improve its corrective action plan. We subsequently designated several of these as priority recommendations, because if implemented, they could yield significant improvements to IRS's operations.

[4]Annual appropriations increased by $290 million between fiscal years 2015 ($10.9 billion) and 2016 ($11.2 billion).

- **Better measure return on investment.** IRS's budget environment and increased workload underscore the importance of IRS maximizing its resources in fulfilling its mission. By further refining direct revenue ROI measures of its enforcement programs, IRS could improve how it allocates resources across its programs. In 2012, we made various recommendations advising IRS to make better use of ROI measures, subject to other considerations of tax administration, such as minimizing compliance costs and ensuring equitable treatment across different groups of taxpayers.

  IRS is taking steps to implement these priority recommendations. For example, IRS has made progress developing a methodology for estimating marginal ratios for a limited subset of cases within the correspondence examination program. IRS officials are working to apply this methodology more broadly; however, they expect this effort will be complex and time consuming. As of November 2016, officials do not have a timeline for full implementation. Until IRS takes into account some measure of revenue yield per dollar of cost when making allocation decisions, it may be missing opportunities to collect significant amounts of additional revenue.

- **Better leverage automated processes.** Taking greater advantage of automated processes could enhance some IRS enforcement programs. For example, IRS does not routinely match the K-1 information return—on which partnerships and S corporations report income distributed to partners or shareholders—to income information on tax returns for partners and shareholders that are themselves partnerships and S corporations. Matching such information might be another tool for detecting noncompliance by these types of entities. In 2014, we recommended that IRS test the feasibility of such matching. IRS stated it would consider studying such testing if resources become available.

  Likewise, continuing to enhance automated taxpayer services, such as web services, could result in lower-cost methods of interacting with taxpayers. In 2013, we made various recommendations for IRS to improve web services provided to taxpayers. IRS has made progress in addressing these priority recommendations but has not yet completed its efforts. IRS's strategy has evolved from a singular focus on online services to a more comprehensive strategy of taxpayer interaction—the Future State Initiative—through all service channels. We will continue to assess the new initiative as IRS continues its development.

- **Improve enforcement data.** More complete enforcement data could help IRS better allocate resources across programs. For example, in

2014, we found that IRS did not know the full extent to which partnerships and S-corporations misreported income, and that IRS examinations and automated document matching have not been effective at finding most of the estimated misreported income. Further, IRS does not know how partnerships misreporting income affects taxes paid by partners. We recommended, among other things, that IRS (1) develop and implement a strategy to improve its information on the extent and nature of partnership misreporting, and (2) use the information to potentially improve how it selects partnership returns to examine. IRS agreed with these priority recommendations and developed a strategy, which will involve a multiyear examination effort to collect audit data from a representative, statistical sample of partnerships. Information from the full study will help IRS make better-informed data-based decisions on enforcement decisions. IRS officials also reported that in January 2016, IRS launched a research study on a subset of the population of partnerships with three or fewer individual partners. The results of this study could improve IRS's ability to estimate the extent and nature of partnership misreporting, and the effectiveness of partnership examinations in detecting misreporting. However, as of December 2016, IRS had not fully implemented the strategy or the research study on small partnerships.

Monitoring

IRS partially meets the criterion of having a program to monitor corrective measures. As previously mentioned, IRS continues to research the extent of taxpayer noncompliance, and periodically estimates the voluntary compliance rate—the amount of tax for a given year that is paid on time. However, IRS does not adequately measure the impact of some specific compliance programs, such as the following:

- **Correspondence examinations.** IRS does not have information to determine how its program of examining tax returns via correspondence affects the agency's broader strategic goals for compliance, taxpayer burden, and cost. Thus, it is not possible to tell whether the program is performing better or worse from one year to the next. In 2014, we made several recommendations, including a priority recommendation, related to monitoring program performance. IRS officials provided documents intended to establish correspondence audit program objectives and measures, and link them to the overall IRS goals and objectives; but the objectives, measures, and links were not clear. As of January 2017, officials had no planned date by which to clearly document the objectives,

measures, and links. They said they expect to describe the objectives in program guidance changes anticipated in the next 12 to 18 months.

- **Compliance Assurance Process.** IRS does not fully assess the savings it achieves through its Compliance Assurance Process (CAP)—through which large corporate taxpayers and IRS agree on how to report tax issues before tax returns are filed. In 2013, we recommended that IRS track savings from CAP and develop a plan for reinvesting any savings to help insure the program is meeting its goals. Although IRS has taken steps to track savings by analyzing and comparing the workload inventory of account coordinators who handle CAP cases against team coordinators who handle non-CAP cases, it did not show how such a workload comparison demonstrated savings from CAP. IRS has also not developed a plan for reinvesting any savings. Without a plan for tracking savings and using the savings to increase audit coverage, IRS cannot be assured that the savings are effectively invested in either CAP or non-CAP cases with high compliance risk. As of November 2016, IRS is evaluating the CAP program to determine how it fits with IRS's future vision for examinations, but it has no timetable for completing this evaluation. Also, IRS did not accept new CAP applications for 2016.

Demonstrated Progress

IRS has partially met the criterion of demonstrating progress in implementing corrective measures to improve compliance and reduce the tax gap. For example, IRS is taking steps to better leverage stakeholders by strengthening its nine public referrals programs—which enable individuals to submit information to IRS about tax noncompliance—but has not yet determined how to measure results for other programs intended to leverage third-party information to improve compliance. Specifically,

- **Public Referral Programs.** Public referral programs are an important piece of IRS's overall enforcement strategy and can help reduce the tax gap. We made several recommendations to IRS, including that it establish a coordination mechanism to communicate across the multiple referral programs, develop an online referral submission process, streamline the review process, and improve external communication. IRS has taken some actions to establish a mechanism to coordinate on a plan and timeline for developing a consolidated, online referral submission, which is also a priority recommendation. For example, IRS established a cross-functional team in February 2016 to conduct a comprehensive review of IRS's

referral programs. In November 2016, the cross-functional team proposed creating an online submission referral application to simplify access and filing of information referrals by the public. The team also requested information technology resources for fiscal year 2019 to develop an online system which it said could potentially replace four separate referral forms, filter out incomplete referrals, and electronically route referrals for further IRS action. IRS assessed options for consolidating all forms for the various referral programs and determined that a consolidated single form was not feasible at this time due to the technical nature and complexity of the various referral types. As of December 2016, IRS said it will consider further consolidation of the referral programs once the online application is in place.

- **Whistleblower Office.** We also identified key problems specific to the whistleblower program, which is the largest of IRS's nine referral programs. For example, few large awards have been paid, claims take years to process, and communication with whistleblowers is limited. IRS agreed with our 10 recommendations to strengthen the whistleblower program, has already implemented several of them, and is in the process of implementing the rest. Until IRS completes these actions, it may be missing opportunities to assist the public, collect billions in uncollected taxes owed, and leverage resources to streamline processes, which could help it to better coordinate and identify possible efficiencies, as well as better manage fragmentation and overlap among its referral programs.
- **Efforts to Encourage Voluntary Compliance.** Also, as previously mentioned, IRS has collected more than $10 billion through its program to encourage taxpayers to voluntarily report their previously undisclosed foreign accounts and assets. However, for some initiatives—such as those related to the Foreign Account Tax Compliance Act or using payment data from credit card companies to improve compliance among small businesses—IRS is still determining how to best measure results, including the effect on the tax gap.

Refund Fraud Related to Identity Theft

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

Leadership Commitment

IRS has met the criterion for demonstrating leadership commitment for combating IDT refund fraud. The agency has taken steps to address IDT refund fraud, including recognizing the challenge of IDT refund fraud in its fiscal year 2014-2017 strategic plan, and expanding its automated fraud filters to detect IDT and prevent fraudulent refunds. The IRS Commissioner has testified numerous times about the challenges from IDT refund fraud and the agency's progress on the issue. Further, the IRS Commissioner convened a Security Summit in March 2015 to bring together representatives of the tax preparation and software industry and state tax administrators to launch a collaborative effort to combat IDT refund fraud. According to IRS officials, this collaboration has resulted in enhanced authentication procedures and data sharing. IRS's Identity Theft Tax Refund Fraud Information Sharing and Analysis Center—where IRS, states, and industry can share information—is intended to become operational at the start of the 2017 Filing Season in January.

Capacity

IRS has partially met the criterion for having the capacity to combat IDT refund fraud. In fiscal year 2016, IRS reported that it staffed more than 4,000 full-time equivalents (FTE) and spent about $516 million on all

refund fraud and IDT activities. Under the Consolidated Appropriations Act 2016, IRS received an additional $290 million to improve customer service, IDT identification and prevention, and cybersecurity efforts. The agency requested an additional $90 million and an additional 491 FTEs for fiscal year 2017 to help prevent IDT refund fraud and reduce other improper payments. At the same time, IRS's ability to combat IDT refund fraud will continue to be challenged by "adaptive adversaries" that continuously change their methods as IRS improves its defenses. For example, recent schemes have involved fraudsters targeting sources of personal and financial information—such as payroll providers and IRS's Get Transcript service—in order to file returns that look like past returns filed by legitimate taxpayers. IRS is also constrained in its ability to combat IDT refund fraud because it must balance the need to prevent fraud against increasing the burden on legitimate taxpayers filing their taxes.

Action Plan

IRS has met the criterion for having an action plan to address IDT refund fraud. IRS has a strategic plan that identifies refund fraud and IDT as major challenges facing the nation's tax system over the next several years. IRS has also identified several strategic objectives relevant to its efforts to combat IDT, including balancing the speed of refund delivery with the need to verify taxpayers' identities; and using third-party data, risk modeling, and a historical view of taxpayer interactions to prevent fraud before issuing refunds. In addition, IRS developed a more detailed Refund Fraud & IDT Strategy in January 2015 and updated it in January 2016. The strategy identifies and assesses the costs and benefits of actions IRS can take to combat IDT refund fraud (both with and without legislative change or a significant change in taxpayer expectations). The strategy has not been updated to reflect new, earlier W-2 filing deadlines enacted in December 2015 as part of the 2016 Consolidated Appropriations Act.[5] However, officials told us that the agency is working with the Social Security Administration to accommodate earlier W-2 data, and plans to use the data, when available, to match to information reported on tax returns. According to IRS, prerefund matching using earlier W-2 data would potentially save a substantial part of the billions of taxpayer dollars currently lost to fraudsters.

[5]26 U.SC. § 6071(c).

Monitoring

IRS has partially met the criterion of having a program to monitor corrective measures. IRS's Identity Theft Taxonomy (Taxonomy) is a research-based effort to provide information to internal and external stakeholders about the effectiveness of IRS's IDT defenses and help IRS identify IDT trends and evolving risks. While IRS has implemented a new methodology to improve its 2014 estimates in response to our past recommendations, additional action is needed. We will analyze the 2015 Taxonomy estimates to determine the extent to which our recommendations have been implemented.

Demonstrated Progress

IRS has partially met the criterion for demonstrating progress in implementing corrective measures to address IDT refund fraud. IRS has developed tools and programs to further detect and prevent IDT refund fraud. IRS has also enhanced its authentication efforts for some online services, such as the Get Transcript application. However, IRS could further demonstrate progress by, for example, implementing our previous priority recommendation related to authentication weaknesses. While IRS has taken steps to address this recommendation, the agency has not used cost-benefit-risk analysis to select which authentication tools to use for certain taxpayer interactions. Without analysis of costs, benefits, and risks, IRS and Congress may not have quantitative information that could inform decisions about whether and how much to invest in the various authentication options.

While IRS has developed research efforts to assess the effectiveness of its IDT defenses, it is unclear whether yearly changes in the amount of estimated IDT refund fraud prevented and paid are due to:

- methodological changes (i.e., using a different data source);
- overall changes in fraud patterns (i.e., an increase or decrease in fraud attempts);
- improvements in IRS IDT defenses; or
- fraudsters' ability to file returns using schemes IRS has not yet learned to detect.

Specifically, IRS's 2014 estimates cannot be compared to 2013 estimates because of substantial methodology changes that better reflect new IDT

refund fraud schemes and improve the accuracy of its estimates, according to IRS officials.

Benefits Achieved by Implementing our Recommendations

- **Improving Efficiency of Partnership Audits.** Congress enacted legislation that alters the Tax Equity and Fiscal Responsibility Act (TEFRA) audit procedures, as we suggested in September 2014. The Bipartisan Budget Act of 2015, which was enacted in November 2015, repeals TEFRA audit procedures and mandates audit procedures that require partnerships with more than 100 partners to pay audit adjustments at the partnership level, among other changes.[6] The legislative changes enacted to TEFRA we suggested could help with the time constraints of large partnership audits as well as reduce the resource demands of those audits. The Joint Committee on Taxation estimates this should raise $9.3 billion in additional revenue from fiscal years 2019 to 2025.
- **Increasing Tax Compliance through Third-Party Reporting.** Our past work underscored that data reported to IRS by third parties about taxpayers' income is a powerful tool to improve taxpayer compliance. In response, Congress passed legislation in 2008—effective in 2011, which required banks and others to report income that merchants received through certain payment methods such as credit cards or third-party networks like PayPal.[7] IRS compares this information to the merchants' tax returns to help verify taxpayer compliance, which the Joint Committee on Taxation estimated would increase tax compliance by $3.9 billion between 2013 and 2016.
- **Improving Tax Reporting on the Sale of Securities.** We reported that many taxpayers misreported their capital gains or losses from the sale of securities. This often happened because taxpayers failed to accurately report the cost of the securities they sold. We suggested that Congress require brokers to report to both taxpayers and IRS the adjusted cost of the securities sold by taxpayers. In response, Congress enacted this requirement in 2008,[8] which the Joint

[6]Pub. L. No. 114-74, § 1101, 129 Stat. 584, 625–638 (Nov. 2, 2015).

[7]26 U.S.C. § 6050W.

[8] 26 U.S.C. §§ 6045(g), 6045A, and 6045B.

Committee on Taxation estimated would increase tax compliance by $3.2 billion between 2012 and 2016.

- **Reporting Additional Mortgage Debt Information to Increase Tax Compliance.** In 2015, Congress enacted the Surface Transportation and Veterans Health Care Choice Improvement Act. Section 2003 of the act requires taxpayers receiving mortgage interest payments to report the origination date of the mortgage, the amount of outstanding principal at the beginning of the calendar year, and the property's address.[9] In response to the legislation, IRS updated Form 1098 Mortgage Interest Statement for 2016, which is available for the 2017 filing season. The Joint Committee on Taxation estimated that this change would increase tax compliance by $1.8 billion between 2015 and 2025.
- **Strengthening Controls Over Higher Education Tax Benefits.** Congress enacted three provisions in 2015 to strengthen controls over higher education tax benefits to reduce inaccurate claims. These provisions: 1) require educational institutions to report only the aggregate amount of qualified tuition and related expenses actually paid to the educational institution during the calendar year; 2) require taxpayers to receive a completed Form 1098-T to claim a credit or deduction for education expenses for tax years beginning after the date of enactment; and 3) require educational institutions to provide their employer identification number on the Form 1098-T, and taxpayers claiming a credit for qualified tuition and educational expenses to provide this employer identification number.[10] The Joint Committee on Taxation estimated that these changes would increase tax compliance by $2 million, $576 million, and $837 million, respectively, between fiscal years 2016 and 2025.
- **Reducing Funding Requests by Modifying Cost Calculation of New Hires.** Prior to the fiscal year 2015 budget request, IRS assumed all new staff requested for new initiatives in the budget request would be hired at the start of the fiscal year, although actual hiring patterns indicated new staff were brought on throughout the fiscal year and primarily in the 3rd and 4th quarters. As a result, IRS modified its calculation for new hires using a later estimated hire date. In the fiscal year 2015 and 2016 request, the estimated hire date was January 1st—the end of the 1st quarter. In the fiscal year 2017 request, the estimated hire date was April 1st—the start of the 3rd quarter. As a

[9]Pub. L. No. 114-41, § 2003, 129 Stat. 443, 454 (July 31, 2015).

[10]Pub. L. No. 114-113, div Q §§ 211, 212, 129 Stat. 2242, 3085–3086 (Dec. 18, 2015); Public Law 114-27, § 804, 129 Stat. 362, 415–416 (June 29, 2015).

result, the funding requests for fiscal years 2015, 2016 and 2017 were approximately $518 million less than if IRS used its prior methodology for calculating FTE costs associated with new initiatives.

- **Expanding Math Error Authority to Enforce First-Time Homebuyer Credit (FTHBC) Repayment Provision.** In 2009, we found that IRS lacked math error authority, which must be provided by statute, to automatically correct tax returns on which taxpayers claimed the 2008 version of the FTHBC but did not repay it as required. We suggested that IRS be granted math error authority to enforce the FTHBC repayment provision. In response, Congress enacted legislation in 2009 granting IRS math error authority for this purpose,[11] which we estimate has increased tax compliance by approximately $206 million between 2011 and 2014, after accounting for IRS costs.
- **Redirecting Resources to Improve Taxpayer Services.** In December 2012, we reported that IRS had made incremental efficiency gains in delivering taxpayer services, but the agency needed to do more to combat the imbalance between taxpayer demand for services and available resources. IRS acknowledged it needed to adjust its taxpayer service delivery because the agency lacked sufficient resources to answer every telephone call and serve every taxpayer who visits a walk-in site. Consistent with our finding that a more dramatic revision in providing service was necessary, IRS implemented six service initiatives in fiscal year 2014 that shifted taxpayers from using telephone and walk-in services to more cost-effective self-service options. As a result of these initiatives, IRS realized about $50.6 million of IRS resources in fiscal year 2016 dollars.
- **Identifying Taxpayers Using Quiet Disclosures to Circumvent Taxes.** In March 2016, IRS officials reported completing research to determine and implement the best option for identifying and pursuing potential quiet disclosures, as we recommended in March 2013. IRS reported that it identified more than 350 cases using its new methodology and as of October 2016 had completed examinations of 179 taxpayers, resulting in approximately $9.1 million in additional tax assessments.
- **Using Data to Improve Taxpayer Services.** IRS officials analyzed correspondence response timeliness data through the end of fiscal year 2014 and found that delays were continuing and more

[11] 26 U.S.C. § 6213(g)(2)(N).

improvements were needed, including further revisions to notices and a revised automated recorded telephone message for taxpayers calling about the status of an audit. By analyzing the data as we recommended in June 2014, and using that data to change outgoing recorded messages starting in January 2015, IRS is better able to improve taxpayer service, reduce the need for taxpayer calls, and more efficiently use IRS resources.

- **Taking Steps to Improve Claims Process and Communications to Encourage Tax Whistleblowers.** Our 2015 review of the IRS whistleblower program resulted in ten recommendations. IRS concurred with these recommendations and has already implemented several of them. Both whistleblowers and IRS stand to benefit greatly as a result of actions IRS has taken such as streamlining the intake and initial review process of whistleblower claims and improving communications. For example, having a more streamlined staffing strategy will allow the Whistleblower Office to review more claims in a timely manner and get information to examiners more quickly to help IRS collect additional revenue. Also, communicating relevant information earlier to whistleblowers will help address a common complaint of the whistleblower community about the lack of timely communication from the Whistleblower Office and could encourage more whistleblowers to come forward with information.
- **Using Employer Wage Data to Prevent Identity Theft Fraud.** In 2014, we found that fraudsters take advantage of IRS's "look back" compliance model, where the agency issues refunds before completing all compliance checks. If IRS matched employer wage data to tax returns earlier, before issuing refunds, it could help prevent fraud. We recommended that IRS assess the costs and benefits of accelerating W-2 deadlines and provide this information to Congress. Based on our review, in September 2015, IRS presented Congress with a document detailing the costs and benefits of W-2 acceleration. The document discusses the IRS systems and work processes that will need to be adjusted to accommodate earlier, prerefund matching of W-2s, the time frames for when these changes could be made; potential impacts on taxpayers, IRS, other parties; and what other changes will be needed (such as delaying refunds) to ensure IRS can match tax returns to W-2 data before issuing refunds. Congress accelerated W-2 filing deadlines to January 31 as part of the 2016 Consolidated Appropriations Act.[12] This change will provide IRS with earlier access to W-2 data. According to IRS, prerefund matching

[12]Pub. L. No. 114-113, div Q § 201, 129 Stat. 2242, 3076 (Dec. 18, 2015). This change goes into effect for W-2s reporting payments made in 2016 and filed in 2017.

would potentially save a substantial part of the billions of taxpayer dollars currently lost to fraudsters.

- **Improving IRS's estimates of IDT refund fraud.** Based on our review, in August 2014 IRS changed its methodology for counting fraudulent IDT refunds paid, which increased the estimate of IDT refunds paid in 2013 by about $1 billion (from its original estimate of $4.8 billion to $5.8 billion).The research IRS used to develop these refund fraud estimates is important as it helps IRS better understand how IDT refund fraud is bypassing agency defenses to improve IDT controls. In June of 2016, we made additional recommendations that IRS improve its IDT cost estimates by removing refund thresholds and using return-level data where available.
- **Improving the design and implementation of exempt organization examination selection.** The Exempt Organizations Exam unit within IRS completed an action plan for the process of reviewing and updating its Internal Revenue Manual sections on an ongoing basis, as we recommended in July 2015. Implementation of the plan began at the end of 2015. Updated and accurate procedures help ensure that employees follow correct procedures and consistently administer tax laws.

GAO Contact

For additional information about this high-risk area, contact James R. McTigue, Jr., or Jessica Lucas-Judy at 202-512-9110 or mctiguej@gao.gov or lucasjudyj@gao.gov.

Related GAO Products

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Medicare Program

Current State of the Medicare Program

Overview of Medicare's Challenges

We designated Medicare as a high-risk program in 1990 due to its size, complexity, and susceptibility to mismanagement and improper payments. Addressing Medicare's short-term and long-term challenges is vitally important, not only for the millions of aged and disabled individuals who depend upon the program for health care coverage, but also for the families of these individuals who might otherwise bear the cost of their health care, the taxpayers who finance the program, and the health care providers who depend upon receiving fair compensation for their services. The aging of the population, coupled with the growth in per capita health care costs, will magnify these challenges over time. Therefore, continued close attention will be necessary to ensure that Medicare is sustainable for generations to come.

Ongoing Challenges

Medicare continues to pose challenges to the federal government for many of the same reasons we designated it a high-risk program. Specifically, Medicare's substantial size and scope result in the current program having wide ranging effects on beneficiaries, the health care sector, and the overall U.S. economy. In 2016, Medicare was projected to spend $696 billion and provide health care coverage to over 57 million beneficiaries. Medicare pays about 60 percent of the health care costs of beneficiaries enrolled in fee-for-service (FFS) who do not reside in institutions.[1] Over 1 million health care providers, contractors, and suppliers—including private health plans, physicians, hospitals, skilled nursing facilities, durable medical equipment (DME) suppliers, ambulance providers, and many others—receive payments from Medicare. Every year, Medicare pays over a billion claims submitted by these health care providers. Consequently, Medicare must be closely monitored because even relatively small changes can have large short-term effects in the aggregate. For example, Medicare provider payment rates that are set

[1]The remainder of these health care costs are financed by beneficiaries' direct spending, private supplements—such as Medigap—and other public sources.

too high unnecessarily financially burden beneficiaries—through higher premiums and cost sharing—taxpayers, and the federal budget. Payment rates that are set too low may diminish providers' willingness to treat Medicare beneficiaries and adversely affect their access to appropriate, high-quality health care.

Medicare also has an outsize effect on the federal budget, which creates challenges when the federal government is determining how to prioritize its spending. The program's expenditures currently account for about 3.6 percent of the country's gross domestic product (GDP).The Congressional Budget Office (CBO) projects that in fiscal year 2016, Medicare outlays will total more than is projected to be spent on defense ($579 billion) and almost double federal spending on Medicaid ($365 billion). Medicare spending will account for approximately 17.8 percent of the approximately $3.9 trillion in federal outlays.

Long-Term Challenges

Medicare also poses substantial long-term financial challenges for the federal government. Program spending is expected to increase significantly over time as the number of beneficiaries grows and per capita health care costs increase. CBO projects that, in just 10 years (in 2026) under current law, Medicare spending will reach almost $1.3 trillion. The Medicare Trustees 2016 report stated that, under current law, Medicare's share of GDP would rise to 5.6 percent by 2040. As Medicare spending grows disproportionately to other federal spending and the economy, it will put increasing pressure on the federal budget and tend to squeeze out spending for other programs.

However, the Trustees have stated that Medicare spending projections, especially those stretching out over decades, are highly uncertain and cautioned that future Medicare spending could be substantially higher than projected. In their 2016 report, they noted that some Medicare cost-reduction provisions may be difficult to sustain. [2] For example, one set of Medicare provisions affecting many types of health care providers

[2]In reporting the results of our audit of the U.S. government's consolidated financial statements for fiscal years 2016 and 2015, we noted that significant uncertainties, primarily related to achieving these projected reductions in Medicare cost growth reflected in the 2016, 2015, 2014, 2013, and 2012 Statements of Social Insurance, prevented us from expressing an opinion on those statements as well as on the 2015 and 2014 Statements of Changes in Social Insurance Amounts. See *Financial Audit: U.S. Government's Fiscal Years 2016 and 2015 Consolidated Financial Statements*, GAO-17-283R (Washington, D.C.: Jan. 12, 2017).

reduces the annual payment rate updates to account for economy-wide productivity growth. However, the productivity growth rates historically achieved by health care providers have been lower than the economy-wide rates. If health care providers do not realize sufficiently high productivity growth and these cost-reduction measures are not sustained, Medicare projected spending could rise to 6.2 percent of GDP in 2040 and 9.1 percent in 2090, according to the Trustees.

Another uncertainty is whether advances in medical technology will tend to slow or accelerate Medicare spending growth. Technological advances may enhance the ability of providers to diagnose, treat, or prevent health problems. Examples include new drugs, devices, procedures, and therapies, as well as new applications of existing technologies. Although new technologies may decrease or increase health care costs, in 2013 we reported that technological change had likely been the dominant cause (accounting for 36 to 55 percent) of the increases in overall U.S. health care per capita spending over the past several decades.[3] It should be noted, however, that a complete assessment of health care spending for new technologies should also consider the associated value for individuals, often measured by improved health functioning, increased life expectancy, or improved economic productivity.

In the past few years, growth in Medicare spending has slowed, as overall health care spending has also slowed. Analysts debate whether this slowdown can be attributed to transitory effects, such as the recent economic turndown, or broader changes in the health care system that may be longer lasting. Nonetheless, Medicare's historical trends, the aging of the population, and the uncertainties associated with recent reforms and the effects of advances in medical technology all underscore the need for continued efforts to moderate spending growth while ensuring that beneficiaries have appropriate access to high-quality health care. Achieving these goals will likely remain an important challenge and require a continued focus on the Medicare program.

[3]In general, a technological change that enables providers to treat a previously untreatable disease will increase health care spending, while expanding disease management or shifting disease management to prevention or cure can lead to either increased or decreased health care spending. However, introducing new treatments and technologies may result in increased health care spending due to the possibility that health complications may arise from a new treatment, or that patients survive one disease long enough and eventually are diagnosed with an additional disease with additional treatment costs. For more information on the effects of technological change on health care spending growth, see GAO, *Patient Protection and Affordable Care Act: Effect on Long-Term Federal Budget Outlook Largely Depends on Whether Cost Containment Sustained*, GAO-13-281 (Washington, D.C.: Jan. 31, 2013).

Highlights of Recent Key Legislation and Significant Reform Efforts

In March 2010, the Patient Protection and Affordable Care Act (PPACA) was enacted, which, among other things, made numerous statutory changes to Medicare.[4] CBO estimated that PPACA would reduce Medicare spending by about $400 billion over 10 years from fiscal year 2010 to fiscal year 2019. Major savings were expected from several actions, including constraining annual payment updates to certain Medicare providers, tying Medicare Advantage (MA)—Medicare's private plan alternative to the traditional Medicare FFS program—maximum payment amounts to near or below FFS spending, reducing payments to hospitals that serve a large number of low-income patients—reflecting the expectation that PPACA's health insurance expansion provisions would result in far fewer uninsured hospital patients—and modifying the high-income threshold for adjusting beneficiary Part B premiums, among other changes.

Some PPACA provisions sought to establish financial incentives for providers to increase the efficiency and quality of Medicare services, or to test new ways of achieving those goals. For example, PPACA required the establishment of a national, voluntary pilot program to bundle payments for physician, hospital, and post-acute care services to improve patient care and reduce spending. Another provision modified payments to hospitals that experience patient readmissions related to certain potentially preventable conditions. Certain PPACA payment changes seek to provide a strong financial incentive for health care providers to enhance productivity, improve efficiency, or otherwise reduce their costs per service. Notably, several of PPACA's changes seek to implement value-based purchasing of health care and transform the program into one that encourages efficiency and quality, instead of simply compensating providers for the volume of health care services.

In April 2015, the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) was enacted, bringing additional changes to the way Medicare reimburses physicians, among other changes to Medicare. MACRA repealed the sustainable growth rate (SGR) system—which was first

[4]Pub. L. No. 111-148, 124 Stat. 119 (2010), as amended by the Health Care and Education Reconciliation Act of 2010, Pub. L. No. 111-152, 124 Stat. 1029 (2010). In this report, references to "PPACA" include amendments made by the Health Care and Education Reconciliation Act of 2010.

implemented in 1998 to moderate spending for physician services—and established a new payment framework to encourage efficiency in the provision of health care and to reward health care providers for higher quality of care. Specifically, MACRA created a Merit-based Incentive Payment System (MIPS) that will be used to increase or decrease certain physicians' payments based on their performance. Under MIPS, the Centers for Medicare & Medicaid Services (CMS) will assess physician performance in four categories: quality; cost; clinical practice improvement activities; and advancing care information through the meaningful use of electronic health records technology. MACRA also included provisions to incentivize Medicare providers to participate in alternative payment models, such as qualifying accountable care organizations.[5] In addition to reforming physician payment, MACRA made several other changes to Medicare, including making income-related adjustments to premiums in Medicare Parts B and D.

It is too early to tell the extent to which these changes in PPACA and MACRA may help constrain Medicare spending over the long run, as the changes have only recently been implemented, or their implementation is ongoing. Moreover, future legislation could modify payment reforms, such as those established by PPACA and MACRA, and affect their impact on program spending. In addition, uncertainty about PPACA's and MACRA's effects on spending exists because future spending may also depend on changes in the rest of the health care system. For example, provisions of PPACA are designed to increase the number of individuals with health insurance and reduce the number of uninsured. In 2013, we found that Medicare beneficiaries who had continuous health insurance coverage before enrollment in Medicare reported being in better health in the 6 years after Medicare enrollment and, in the first year of Medicare coverage, had significantly lower Medicare spending.[6]

Additional spending uncertainty stems from concerns raised by the Medicare Trustees, CBO, and the Office of the Actuary (OACT) about whether some of the Medicare cost-containment mechanisms included in PPACA can be sustained over the long term, such as the provider

[5]Accountable care organizations are groups of physicians, hospitals, and other health care providers who voluntarily work together to give coordinated care to the Medicare patients they serve. When an accountable care organization succeeds in delivering high-quality care and spending health care dollars more efficiently, part of the savings generated goes to the organization and part is kept by Medicare.

[6]GAO, *Medicare: Continuous Insurance before Enrollment Associated with Better Health and Lower Program Spending*, GAO-14-53 (Washington, D.C.: Dec. 17, 2013).

productivity payment adjustment, and physician payment updates and incentives included in MACRA. For example, additional payments for alternative payment models provided under MACRA will expire in 2025, and physician payment update amounts, which are not tied to economic conditions, are not expected to keep pace with average physician cost increases. The Medicare Trustees report for 2016 projected that, beginning in 2048, physician payment rates will be lower than they would have been under the SGR formula and will continue to be lower after that. CBO and OACT both produced alternative projections of future spending that assume that certain cost-containment mechanisms are not fully maintained over the long term.

Our Work Suggests the Need for Continued Attention in Five Principal Areas

The effects of these recent changes to the Medicare program will continue to emerge in the coming years and may add to the challenges that already confront the federal government as it oversees and manages the program. Our work to date illustrates the challenges facing Medicare and the need for improved federal oversight in five areas.

1. Payments and Provider Incentives in Traditional Medicare
2. Medicare Advantage and Other Medicare Health Plans
3. Program Design Effects on Beneficiaries, Including Those Eligible for Medicaid
4. Program Management
5. Oversight of Patient Care and Safety

Payments and Provider Incentives in Traditional Medicare

Medicare is transitioning from a payment system that largely rewards the volume and complexity of health care services provided to a system that explicitly rewards quality and efficiency. Many of the broad-based reforms being implemented to Medicare's payment systems in the traditional FFS program have introduced financial incentives into payment structures to explicitly reward quality and efficiency, such as creating the Merit-based Incentive Payment System discussed previously. To help ensure that physicians are able to respond to these new incentives and are able to improve their performance, CMS recently began to provide more frequent

feedback to physicians on their performance, as we recommended, to help them identify opportunities to reduce costs and pinpoint high-cost beneficiaries who may benefit from enhanced care coordination. MACRA also required that CMS consider physician and other providers' improvement and their opportunity for continued improvement when establishing benchmarks for Merit-based Incentive Payment System performance measures. As CMS progresses toward fully implementing its value-based payment system, it will be important for the agency to use reliable quality and cost measures and methodological approaches that maximize the number of physicians for whom value can be determined.

As CMS implements these broad-based payment reforms, we have identified additional areas where continued monitoring of payment methods is warranted to encourage efficiency and reduce the risk of overspending.

Payment methods for cancer hospitals. Currently, 11 cancer hospitals, designated in the 1980s and 1990s, that meet certain statutory criteria are exempt from Medicare's inpatient prospective payment system (PPS) and are also receiving payment adjustments under the outpatient PPS. The Medicare PPS introduced better control over program spending and provided hospitals with an incentive for efficient resource use. Yet for decades, as required by law, Medicare has paid these cancer hospitals differently than PPS hospitals in recognition of their specialized focus and concerns that reimbursements under PPS would be inadequate to cover costs for the types of care provided at cancer hospitals. This has remained the case even as the inpatient PPS methodology has been refined to better account for variation in the severity and complexity of beneficiaries and the resource intensity of hospital care.

The 11 cancer hospitals currently exempted from the inpatient PPS and receiving payment adjustments under the outpatient PPS are reimbursed largely based on their reported costs and as such have little incentive for containing costs. In 2012, we estimated that PPS-exempt cancer hospitals received, on average, about 42 percent more in Medicare inpatient payments per discharge than what Medicare would have paid a local PPS teaching hospital to treat cancer beneficiaries with the same level of complexity. Similarly, Medicare outpatient payment adjustments to these cancer hospitals resulted in overall payments that were about 37 percent higher, on average, than payments Medicare would have made to

PPS teaching hospitals for the same set of services.[7] Had beneficiaries of PPS-exempt cancer hospitals received services at nearby PPS teaching hospitals in 2012, the Medicare program may have saved almost $500 million. We suggested that Congress require Medicare to pay PPS-exempt hospitals as it pays PPS teaching hospitals, or provide the Secretary of Health and Human Services the authority to otherwise modify how Medicare pays these PPS-exempt hospitals. To generate cost savings, we also suggested that Congress provide that all forgone outpatient payment adjustment amounts be returned to the Supplementary Medical Insurance Trust Fund, which funds Medicare Part B services, such as physician visits, and Medicare Part D services, such as prescription drugs. The 21st Century Cures Act, enacted in December 2016, slightly reduces the additional payments cancer hospitals receive for outpatient services and returns savings to the Supplementary Medical Insurance Trust Fund. However, the law keeps in place the payment system for outpatient services that differs from how Medicare pays PPS teaching hospitals. Moreover, the law does not change how PPS-exempt cancer hospitals are paid for inpatient services.[8] Until Medicare pays PPS-exempt cancer hospitals in a way that encourages efficiency, rather than largely on the basis of reported costs, Medicare remains at risk for overspending.

Hospital-physician consolidation. Because Medicare often pays more for services when they are performed in a hospital outpatient department than when they are performed in a physician's office, hospitals may have an incentive to acquire physician practices, hire physicians as salaried employees, or both—financial arrangements commonly referred to as vertical consolidations. After hospitals and physicians vertically consolidate, the same services that were once reimbursed by Medicare at a lower total payment rate could be classified as hospital outpatient department services and reimbursed at a higher rate. In our work, we found that the number of vertically consolidated hospitals increased by about 20 percent from 2007 through 2013 and the number of physicians in these arrangements nearly doubled.[9] Some have questioned whether

[7]GAO, *Medicare: Payment Methods for Certain Cancer Hospitals Should Be Revised to Promote Efficiency*, GAO-15-199 (Washington, D.C.: Feb. 20, 2015).

[8]The 21st Century Cures Act reduced by 1 percentage point the target payment-to-cost ratio used to calculate additional outpatient payments that PPS-exempt cancer hospitals receive, for services furnished on or after January 1, 2018. Pub. L. No. 114-255, § 16002, 130 Stat. 1033 (2016).

[9]GAO, *Medicare: Increasing Hospital-Physician Consolidation Highlights Need for Payment Reform*, GAO-16-189 (Washington, D.C.: Dec. 18, 2015).

or to what extent vertical consolidations have contributed to the rapid rise in Medicare expenditures for hospital outpatient departments, which increased by more than eight percent annually from 2007 through 2013. We found that the percentage of evaluation and management (E/M) office visits performed in hospital outpatient departments was generally higher in counties with higher levels of vertical consolidation.[10]

The rise in vertical consolidation exacerbates a financial vulnerability in Medicare's payment policy—paying different rates for the same service, depending on where the service is performed. Estimates from entities such as the Bipartisan Policy Center and the Medicare Payment Advisory Commission suggest that equalizing payments rates for E/M office visits could save nearly $1 billion to $2 billion a year for the Medicare program and beneficiaries. We suggested that Congress direct the Secretary of Health and Human Services to equalize payment rates between settings for E/M office visits and other services as appropriate. Until the disparity in payment rates for E/M office visits is addressed, Medicare could be expending more resources than necessary.[11]

Payments for hospital uncompensated care. Hospital uncompensated care costs are a long-standing concern because of their potential to weaken hospitals' financial stability and thereby hospitals' abilities to serve their communities. Both Medicare and Medicaid provide funds to help offset hospitals' uncompensated care costs. In fiscal year 2014, Medicare made over $14 billion in payments to hospitals for uncompensated care through a variety of payment types, including a relatively new type of payment called Medicare Uncompensated Care (UC) payments. We have raised concerns that Medicare UC payments are largely based on hospitals' Medicaid workload rather than hospitals' actual uncompensated care costs, which can result in poor alignment between payments and uncompensated care costs.[12] This may be

[10]E/M office visits are a common type of service that can be performed in both HOPDs and physician offices. GAO-16-189.

[11]In 2015, Congress partially addressed this trend by excluding services furnished by off-campus hospital outpatient departments from this higher payment, effective January 1, 2017. However, this exclusion will not apply to services furnished by providers billing as hospital outpatient departments prior to enactment of the legislation—that is, all providers billing as hospital outpatients during our study—who would continue to be paid under higher rate or to services provided by on-campus hospital outpatient departments. Congress later added providers meeting a mid-build requirement to the list of providers to which the exclusion would not apply.

[12]GAO, *Hospital Uncompensated Care: Federal Action Needed to Better Align Payments with Costs*, GAO-16-568 (Washington, D.C.: June 30, 2016).

particularly true in states that have expanded Medicaid—that is, coverage expanded through PPACA to nearly all adults with incomes up to 133 percent of the poverty level—and therefore where lower uncompensated care costs are expected.[13]

In an April 2016 proposed rule, CMS announced that it is considering making hospitals' actual uncompensated care costs the sole basis for making Medicare UC payments by fiscal year 2020. Another concern, however, is that when making Medicare UC payments, CMS does not account for payments hospitals received from Medicaid, even though the bulk of Medicare's payments are made on the basis of Medicaid workloads, for which hospitals may have also received Medicaid payments. We recommended that CMS improve the alignment of Medicare UC payments with hospital uncompensated care costs and account for Medicaid payments received when making Medicare UC payments to individual hospitals. HHS concurred with these recommendations and in its final rule indicated that it planned to implement them beginning in fiscal year 2021 to allow time for hospitals to collect and report reliable uncompensated care cost data.

Physician self-referral. Our work has identified opportunities for CMS to introduce additional payment method refinements and controls in Medicare FFS to encourage appropriate use of services. For example, self-referral—when a provider refers patients to entities in which the provider or the provider's family members have a financial interest—continues to be a concern in relation to the rapid growth of Medicare FFS expenditures. In recent years, we found that certain services—including diagnostic imaging, certain cancer treatments, and diagnostic pathology services—performed by self-referring groups have increased dramatically.[14] For example, from 2004 through 2010, the number of self-referred magnetic resonance imaging (MRI) services increased by more than 80 percent; in comparison, the number of non-self-referred MRI

[13]PPACA also provided for 5 percent of an applicant's income to be disregarded when calculating modified adjusted gross income, which effectively increases this income level to 138 percent of the federal poverty level. As of October 2016, 31 states and the District of Columbia had opted to expand Medicaid eligibility under PPACA.

[14]See GAO, *Medicare: Higher Use of Advanced Imaging Services by Providers Who Self-Refer Costing Medicare Millions*, GAO-12-966 (Washington, D.C.: Sep. 28, 2012); GAO, *Medicare: Higher Use of Costly Prostate Cancer Treatment by Providers who Self-Refer Warrants Scrutiny*, GAO-13-525 (Washington, D.C.: July 19, 2013); and GAO, *Medicare: Action Needed to Address Higher Use of Anatomic Pathology Services by Providers who Self-Refer*, GAO-13-445 (Washington, D.C.: June 24, 2013).

services increased by 12 percent during this time period.[15] We have recommended that CMS determine and implement an approach to ensure providers appropriately self-refer for advanced imaging services. HHS did not concur with this recommendation but is in the process of establishing an appropriate use criteria program for advanced imaging services that would apply to all physicians—including those that self-refer—and which, depending on implementation, could address our recommendation. CMS has yet to take definitive steps to monitor physician self-referral for certain cancer treatment and diagnostic pathology services, and until it does so, the Medicare FFS program and its beneficiaries will continue to be at risk for these rapidly increasing expenditures.

High-expenditure Part B drugs. In 2014, Medicare spent over $24 billion on drugs covered under Part B. Part B drugs are those commonly administered by a physician or under a physician's close supervision, such as vaccines or some oral cancer drugs. The vast majority of these expenditures ($21 billion) were based on the drug's average sales price (ASP), the amount physicians and other purchasers pay manufacturers for the drug, which CMS calculates based on sales data reported by drug manufacturers. Ensuring the accuracy of the data on which CMS bases payment rates for part B ASP drugs is important given Medicare's substantial expenditures for these drugs and given beneficiaries' general responsibility to cover 20 percent of Medicare's payment for these drugs via cost-sharing requirements, which amounted to about $4 billion in 2014. We found, however, that CMS is not able to assess the accuracy of all sales price data because not all manufacturers are required to submit these data.[16] Further, while CMS conducts certain checks to assess the completeness of the sales data it does receive, the agency does not verify the accuracy of the data by tracing it to source documents, such as sales invoices. We suggested that Congress require all manufacturers of Part B drugs to submit sales price data to CMS and to ensure CMS has the authority to request source documentation and periodically validate such data.

Additionally, the ASP does not account for drug coupon discounts that manufacturers provide to privately insured patients, which reduce the effective market price for these drugs. In our work, we found that the ASP for several part B drugs with drug coupon discounts exceeded the

[15]GAO-12-966.

[16]GAO, *Medicare Part B: CMS Should Take Additional Steps to Verify Accuracy of Data Used to Set Payment Rates for Drugs*, GAO-16-594 (Washington, D.C.: July 1, 2016).

effective market price that manufacturers ultimately received.[17] As a result, Medicare may be paying more than necessary for these drugs. Regular monitoring of the implications of coupon programs for Medicare's payment methodology for part B drugs is needed as CMS works to propose an alternative payment system. CMS, however, lacks the authority to collect data from drug manufacturers on coupon discounts to patients because the authority to collect information relating to ASP is based on manufacturer sales to purchasers. We suggested that Congress consider granting CMS authority to collect data from drug manufacturers on coupon discounts for Part B drugs based on ASP and require the agency to periodically collect these data and report on the implications of coupon programs for Part B drug payment rate methodology.

Low-volume payment adjustments. Medicare's payment adjustment for low-volume dialysis facilities is one of several modifications in Medicare's payment systems designed to help maintain beneficiaries' access to care. Low-volume providers in areas where other care options are limited may warrant higher payments, and CMS intended this low-volume payment adjustment (LVPA) to encourage small dialysis facilities to continue operating in areas where beneficiary access might be jeopardized if such facilities closed. However, in 2013 we found that, as designed, the LVPA did not effectively achieve this goal because it did not target all relatively low-volume, high-cost facilities that were in areas where beneficiaries may have lacked other dialysis care options, and it targeted some facilities that appeared unnecessary for ensuring access to dialysis, such as dialysis facilities located in close proximity to other facilities.[18] In response to our report, CMS revised the LVPA, beginning in 2016, to more effectively target low-volume facilities necessary for ensuring access to care; and in 2015, CMS issued clarifying guidance on the LVPA in a final rule and held outreach calls to dialysis facilities and Medicare contractors to ensure their understanding of the guidance. The agency has not acted, however, to implement an improvement we recommended to change the design of LVPA to reduce the incentive for facilities to restrict the services they provide in order to avoid reaching treatment thresholds that determine eligibility for the program.

[17]GAO, *Medicare Part B: Data on Coupon Discounts Needed to Evaluate Methodology for Setting Drug Payment Rates*, GAO-16-643 (Washington, D.C.: July 27, 2016).

[18]GAO, *End-Stage Renal Disease: CMS Should Improve Design and Strengthen Monitoring of Low-Volume Adjustment*, GAO-13-287 (Washington, D.C.: Mar. 1, 2013).

Physician payment rates. The accuracy of Medicare's payment rate for physician services has major implications for the health care system given spending on these services—$70 billion in fiscal year 2015—and the fact that other payers, such as private insurers, base their payment rates at least in part on Medicare rates. Inaccurate payment rates can create distorted incentives for physicians to either over- or underprovide services or to pursue certain specialties. We and others have identified several weaknesses in CMS's processes for setting physician payment rates.[19] This process involves CMS assigning relative values to each service by taking into account recommendations made by the American Medical Association's Specialty Society Relative Value Scale Update Committee (RUC).

Some of our concerns with this process include issues with the survey data the RUC uses in part to develop relative value recommendations, including low survey response rates. In 2015, the median survey response rate for over 200 physician services was about 2 percent. Additionally, although CMS officials state that all Medicare services are reviewed every 5 years as required by statute, the agency does not maintain a database to track when services were last valued. CMS officials acknowledge that the agency relies heavily on RUC recommendations. Given the process and data-related weaknesses associated with the RUC's recommendations, this process could potentially result in inaccurate payment rates. To address these concerns, we recommended that CMS incorporate data and expertise from physicians and other relevant stakeholders into the process for establishing relative values. CMS concurred with this recommendation and has begun to research ways to develop an approach for validating relative values, but until it develops a timeline and a plan for determining its approach, CMS risks continuing to use payment rates that may be inaccurate.

Medicare Advantage and Other Medicare Health Plans

The MA program, an alternative to the traditional Medicare FFS program, provides health care coverage to Medicare beneficiaries through private health plans. The number and percentage of Medicare beneficiaries enrolled in MA has grown steadily over the past several years, increasing

[19]See, for example, GAO, *Medicare Physician Payment Rates: Better Data and Greater Transparency Could Improve Accuracy*, GAO-15-434 (Washington, D.C.: May 21, 2015) and Medicare Payment Advisory Commission, *Moving Forward from the Sustainable Growth Rate (SGR) System*, letter to Congress (Washington, D.C.: October 2011).

from 8.1 million (20 percent of all Medicare beneficiaries) in 2007 to 15.8 million (30 percent of all Medicare beneficiaries) in 2014. Congress has taken a number of steps to introduce financial incentives to explicitly reward quality and efficiency in the MA program. For example, PPACA provided that MA plans with a quality rating of four or more stars—with five stars indicating the highest quality—receive bonus payments, and required MA maximum payment amounts to be adjusted to near or below FFS spending.[20] Moreover, in January 2013, Congress enacted the American Taxpayer Relief Act of 2012 (ATRA), which increased the statutory minimum for the annual MA coding intensity adjustment in order to account for differences in the comprehensiveness with which MA plans and FFS providers code medical diagnoses.[21] CBO estimated that this change alone would save Medicare about $1.4 billion over 5 years. The recently enacted 21st Century Cures Act also includes several changes to the MA risk adjustment model that must be implemented beginning in 2019. For example, the MA risk adjustment model will be required to take into account the number of diseases or conditions of enrollees and allows CMS to use 2 years of diagnosis data when determining the health condition of beneficiaries.[22]

CMS has yet to take action to improve the accuracy of its payments to MA programs or to ensure that MA beneficiaries have sufficient access to providers. We have identified additional opportunities for CMS to improve the accuracy of MA payments, such as adjusting its methodology to account for diagnostic coding differences between MA and FFS, and improve CMS's oversight of MA network adequacy.

[20]PPACA changed how the maximum per capita payment amount to an MA plan is calculated so that it more closely aligned with Medicare FFS spending. Specifically, the changes, which are to be phased in from 2012 through 2017, will result in maximum payments being tied to a percentage of per capita Medicare FFS spending in each county. In general, for those counties in the highest Medicare FFS spending quartile, the maximum payment to an MA plan will be 95 percent of county per capita Medicare FFS spending, and for those counties in the lowest Medicare FFS spending quartile, the maximum payment amount will be equal to 115 percent of county per capita Medicare FFS spending.

[21]Since 2004, when CMS transitioned from using only a beneficiary's principal inpatient diagnosis to using a larger set of major medical conditions to risk adjust MA payments, MA plans have had a financial incentive to ensure that all relevant diagnoses are coded, as this can increase beneficiaries' risk scores and ultimately the payments that plans receive. In contrast, CMS pays many Medicare FFS providers for services provided rather than on the basis of beneficiaries' diagnoses.

[22]Pub. L. No. 114-255, § 17006, 130 Stat. 1033 (2016).

MA plan payment adjustments. Concerns remain about the discrepancy between FFS and MA payments because CMS has yet to improve the accuracy of the adjustment to account for excess payments due to differences in how MA plans and FFS providers code medical diagnoses. We have found that CMS's risk adjustment model—which uses one year's diagnoses to predict the following year's health care costs for each MA enrollee—has led it to overpay MA organizations because of different diagnostic coding patterns between the FFS and MA programs.[23] In 2013, we estimated that these overpayments ranged from at least $3.2 billion to $5.1 billion from 2010 through 2012.[24] We have recommended that CMS take steps to improve the accuracy of its risk score adjustments by, for example, accounting for additional beneficiary characteristics such as sex, health status, and Medicaid enrollment status, as well as including the most recent data available.[25] In April 2016, CMS indicated that after analyzing MA data, the agency planned to implement the statutory minimum for the annual MA coding adjustment mandated in ATRA. However, as of October 2016, CMS had not provided documentation of its analysis to determine, for example, the extent to which the agency's methodology accounted for additional beneficiary statistics, as we recommended.

In addition, CMS has taken steps to collect encounter data—information on the services and items furnished to enrollees—which are more comprehensive than the beneficiary diagnosis data the agency currently uses to risk adjust payments to MA organizations, and has reported that it will use these data in calculating risk adjustments. However, CMS has not fully developed plans for validating and using MA encounter data, missing an opportunity to detect potentially inaccurate or unreliable data that is being used to direct billions of federal dollars. We recommended that CMS fully validate the MA encounter data it is collecting before using these data for payment purposes.[26] In 2015, CMS began using encounter

[23]GAO, *Medicare Advantage: CMS Should Improve the Accuracy of Risk Score Adjustments for Diagnostic Coding Practices*, GAO-12-51 (Washington, D.C.: Jan. 12, 2012) and GAO, *Medicare Advantage: Substantial Excess Payments Underscore Need for CMS to Improve Accuracy of Risk Score Adjustments*, GAO-13-206 (Washington, D.C.: Jan. 31, 2013).

[24]GAO, *Medicare Advantage: Substantial Excess Payments Underscore Need for CMS to Improve Accuracy of Risk Score Adjustments*, GAO-13-206 (Washington, D.C.: Jan. 31, 2013).

[25]GAO-12-51.

[26]GAO, *Medicare Advantage: CMS Should Fully Develop Plans for Encounter Data and Assess Data Quality before Use*, GAO-14-571 (Washington, D.C.: Jul. 31, 2014).

data as an additional source of diagnostic data in calculating beneficiary risk scores but acknowledged that the agency had yet to complete all steps to validate the data before using them for payment purposes, as we had recommended. Without fully validating the completeness and accuracy of MA encounter data, CMS and MA organizations would be unable to confidently use the data for risk adjustment or any other program management purpose.

Provider network adequacy. CMS is responsible for ensuring adequate access to care for MA enrollees, but reports that some MA organizations have been narrowing their provider networks raise questions about CMS oversight of MA plans' network adequacy. In 2015, we reported on shortcomings in CMS's criteria for determining network adequacy, how the agency oversees MA organizations' adherence to its requirements, and how it ensures enrollees are properly notified about provider network changes.[27] For example, unlike other managed care programs, CMS's network adequacy criteria do not consider measures of provider availability, such as appointment wait times and whether providers are accepting new patients. CMS also assesses very few networks (less than one percent) each year against its network adequacy criteria and does little to evaluate the accuracy of the network data MA organizations submit. We made several recommendations, including that CMS augment MA network adequacy criteria to address provider availability. HHS concurred with this recommendation, and in early 2016, officials stated that they will review how to augment the MA network adequacy criteria to address provider availability in future years. However, until this happens, provider networks may appear to regulators and beneficiaries as more robust than they actually are.

Program Design Effects on Beneficiaries, Including Those Eligible for Medicaid

The Medicare Trustees estimate that Medicare spending will grow at a faster rate than workers' earnings or the economy overall, which will impose a significant burden on Medicare beneficiaries and the U.S. economy over time. Because most Medicare beneficiaries pay their Part B premium by having it withheld from their monthly Social Security benefits, and because growth in Medicare premiums and cost sharing has outpaced growth in Social Security benefits, beneficiaries and their

[27]GAO, *Medicare Advantage: Actions Needed to Enhance CMS Oversight of Provider Network Adequacy*, GAO-15-710 (Washington, D.C.: Aug. 31, 2015).

families may increasingly need to draw on other income or resources to help pay for necessary medical care. Moving forward, it will be important to find approaches that help avert or mitigate this growing financial burden, particularly for those beneficiaries with high health care needs and few economic resources. For example, understanding how beneficiaries make medical decisions and what information would help them identify and use providers that efficiently deliver appropriate, high-quality care could lead to savings for both beneficiaries and taxpayers.

Our work has identified additional opportunities to improve how the Medicare program ensures that beneficiaries, including those who are also eligible for Medicaid, receive the appropriate services they need.

Care for dual-eligible beneficiaries. The federal government, states, and others have been focusing on care coordination as a key strategy for improving the quality of care for dual-eligible beneficiaries—individuals who qualify for both Medicare and Medicaid—while also reducing costs. Dual-eligible beneficiaries, who are often in poorer health compared with other Medicare and Medicaid beneficiaries, typically receive benefits through each program separately, which can lead to fragmented care due to different program rules for receiving benefits and reimbursing providers. In 2013, CMS began implementing the Financial Alignment Demonstration to integrate Medicare and Medicaid services and financing, and to improve coordination for dual-eligible beneficiaries. While CMS established a framework of monitoring activities to oversee the demonstration, the extent of care coordination is not entirely clear from the information being collected. For example, CMS monitors two core measures related to care coordination, but because these are being used in only one of two models being tested in the demonstration, CMS cannot compare the two demonstration models using these measures. Similarly, demonstration states had state-specific measures that explored aspects of care coordination, but they were not comparable across states. We recommended, among other things, that CMS align existing state-specific measures of the extent to which individualized care plans are being developed to make them comparable.[28] The agency agreed with this recommendation, and CMS officials said they plan to develop a care plan measure that more closely aligns specifications across demonstrations, but data collection is not expected to begin until January 2018.

[28]GAO, *Medicare and Medicaid: Additional Oversight Needed of CMS's Demonstration to Coordinate the Care of Dual-Eligible Beneficiaries*, GAO-16-31 (Washington, D.C.: Dec. 18, 2015).

Dual-eligible special needs plans. Special needs plans are MA private plans designed to address the unique needs of certain Medicare populations, and among these plans are those targeted specifically to dual-eligible beneficiaries. CMS and Congress have taken steps to coordinate care for those enrolled in dual-eligible special needs plans to increase benefit integration and care coordination. For example, PPACA established a type of plan referred to as a fully integrated dual-eligible special needs plan, which is designed to integrate program benefits for dual-eligible beneficiaries through a single managed care organization. In addition, dual-eligible special needs plans that meet certain performance and quality-based standards may seek CMS approval to offer benefits beyond what other MA plans offer if such benefits would help bridge the gap between Medicare- and Medicaid-covered services. Although a large percentage of dual-eligible beneficiaries (43 percent in 2012) were under age 65 and qualified for Medicare because they were disabled, we found that few fully integrated dual-eligible special needs plans serve disabled dual-eligible beneficiaries or report lower costs for Medicare services.[29] In addition, moderately better health outcomes for disabled dual-eligible beneficiaries in dual-eligible special needs plans do not necessarily translate into lower levels of costly Medicare services—that is, inpatient stays, readmissions, and emergency room visits.[30]

Access to preventive services. Over the past several years, researchers have found that certain preventive services are effective in early diagnosis or reduced prevalence of diseases that contribute to the growth in Medicare spending. To encourage beneficiary use, PPACA removed beneficiary cost-sharing requirements for many Medicare-covered preventive services, such as mammograms and colorectal cancer screening. However, in our work we found that while Medicare beneficiaries' use of some preventive services—cardiovascular disease screening and cervical cancer screening—generally aligned with clinical recommendations, the use of other preventive services, such as osteoporosis screening and immunizations, did not.[31] Medicare beneficiaries who did not receive certain preventive services commonly reported that they had limited information on prevention; had concerns

[29]GAO, *Disabled Dual-Eligible Beneficiaries: Integration of Medicare and Medicaid Benefits May Not Lead to Expected Medicare Savings*, GAO-14-523 (Washington, D.C.: Aug. 29, 2014).

[30]GAO-14-523.

[31]GAO, *Medicare: Use of Preventive Services Could Be Better Aligned with Clinical Recommendations*, GAO-12-81 (Washington, D.C.: Jan. 18, 2012).

about discomfort, side effects, or efficacy; or their doctor did not recommend the services. Furthermore, we found better use of preventive services by beneficiaries is unlikely without appropriate Medicare coverage. For instance, low use of some recommended services—such as osteoporosis screenings—may result, in part, from limiting which beneficiaries are covered or how frequently the service is covered. Conversely, the absence of required cost sharing for certain services that are not recommended, such as prostate-specific antigen testing for prostate cancer for men aged 75 or older, may contribute to the inappropriate use of those services. In 2012, we suggested Congress require beneficiaries to share the cost when they receive services that the U.S. Preventive Services Task Force recommends against.

Program Management

CMS has overcome some challenges in managing the Medicare program as it implemented some program improvements in recent years, including a competitive bidding program for durable medical equipment (DME). However, more could be done to improve how CMS manages the Medicare program, including its handling of the growing number of appeals for denied claims.

Competitive bidding program. We had previously reported that Medicare sometimes overpaid for DME items relative to other payers.[32] Congress required that CMS implement a competitive bidding program for DME suppliers, which the agency began in 2009. In early assessments, we found that beneficiary access and satisfaction appeared stable and the competitive bidding program has led to savings.[33] More recently in 2016, we found that the number of beneficiaries receiving DME items covered under the competitive bidding program generally decreased after implementation of phases of the program that began in July 1, 2013.[34] Available evidence from CMS's monitoring efforts indicates no widespread effects on beneficiary access, but some beneficiary advocacy

[32]GAO, *Medicare: Competitive Bidding for Medical Equipment and Supplies Could Reduce Program Payments, but Adequate Oversight Is Critical,* GAO-08-767T (Washington, D.C.: May 6, 2008).

[33]GAO, *Medicare: Review of First Year of CMS's Durable Medical Equipment Competitive Bidding Program's Round 1 Rebid*, GAO-12-693 (Washington, D.C.: May 9, 2012).

[34]GAO, *Medicare: CMS's Round 2 Durable Medical Equipment and National Mail-order Diabetes Testing Supplies Competitive Bidding Programs*, GAO-16-570 (Washington, D.C.: Sept. 15, 2016).

groups have reported specific access issues, such as difficulty locating contract suppliers and delays in delivery of DME items. Changes such as expanding the program into additional competitive bidding areas; using pricing from competitive bidding areas to set prices in non-competitive bidding areas (which was fully phased in as of July 2016); and selecting new contract suppliers for contracts for new rounds of bidding will provide significant new data to further assess the effect of the program. Continued monitoring of the competitive bidding program experience is important to determine the full effects it may have on Medicare beneficiaries and DME suppliers.

Appeals process. Medicare has seen significant growth in the number of appeals submitted by providers, beneficiaries, and others dissatisfied with the program's decisions to deny or reduce payment for claims. The Department of Health and Human Services (HHS) attributes the increase in appeals to several factors, including for example, CMS's recent increased focus on program integrity activities, which has resulted in more denied claims and more appeals. In fiscal year 2014, Medicare denied 128 million FFS claims, or 10.5 percent of claims submitted. Medicare's administrative appeals process for FFS claims consists of 4 levels of review (Levels 1 through 4) and allows appellants who are dissatisfied with decisions at one level to appeal to the next level, with separate appeals bodies making decisions at each level. From fiscal year 2010 to 2014, the number of appeals at all levels of Medicare's administrative appeals process increased significantly but varied by level. The largest rate of increase (over 900 percent) was experienced at Level 3, in which cases are reviewed by administrative law judges. The large volume of appeals has resulted in backlogs in decisions; in fiscal year 2014, more than 90 percent of Level 3 decisions were issued after the 90-day statutory time frame.

We recommended that HHS take additional steps to improve its oversight of the appeals process, including collecting more complete and consistent data that would assist in monitoring efforts and addressing inefficiencies in the way certain repetitious claims—such as those for monthly oxygen equipment rentals—are adjudicated.[35] HHS has taken some actions to reduce the backlog of appeals. For instance, CMS has offered administrative agreements to eligible hospitals that are willing to withdraw their pending appeals in exchange for timely partial payments, in order to

[35]GAO, *Medicare Fee-For-Service: Opportunities Remain to Improve Appeals Process*, GAO-16-366 (Washington, D.C.: May 10, 2016).

more quickly reduce the volume of claims pending in the appeals process. As of August 2016, CMS has executed settlements amounting to nearly $1.5 billion with 2,022 hospitals, representing approximately 346,000 claims that were in the appeals system. In September 2016, CMS announced it would execute another round of settlements for hospitals with inpatient claims in appeals. In addition, in July 2016, HHS issued a proposed rule that would revise certain appellate procedures in an effort to improve the Medicare appeals process and reduce the backlog. However, HHS has not yet taken actions to address our specific recommendations, and the backlog shows no signs of abating, as the number of incoming appeals continues to surpass adjudication capacity at certain review levels. For fiscal year 2016, the average length of time to process Level 3 appeals was 877 days, compared with the 90 days generally required by statute, and up from the 662 days for fiscal year 2015.[36]

Oversight of Patient Care and Safety

CMS has made progress in improving the health and safety of millions of Medicare beneficiaries, which represent a significant portion of the U.S. population. According to CMS, Medicare Quality Improvement Organizations—which work with providers, beneficiaries, and others to improve health care delivery systems to achieve better care for lower costs—-supported efforts that from fiscal year 2011 through fiscal year 2014 helped to prevent tens of thousands of beneficiaries from being admitted or readmitted to hospitals; reduce the number of health care associated infections; and reduce the number of nursing home patients who experienced pressure ulcers or the use of restraints. CMS has also improved its oversight of quality of care. In 2012, in response to our recommendation, CMS included long-term care hospitals in its validation surveys, which are used to measure the effectiveness of surveys conducted by accrediting organizations on the extent to which facilities meet federal standards for quality of care. However, CMS can further improve how it oversees patient care and safety, as described below.

Clinical data registries. Clinical data registries (CDR) have the potential to improve the quality and efficiency of care for all Medicare beneficiaries by collecting extensive, standardized data and providing feedback to

[36]On December 5, 2016, the U.S. District Court for the District of Columbia issued a decision granting summary judgment to the American Hospital Association and ordering HHS to resolve the current backlog of Medicare appeals by December 31, 2020. Am. Hosp. Ass'n v. Burwell, 2016 WL 7076983 (D.D.C. Dec. 5, 2016).

physicians on their performance based on their peers. CDRs are entities that collect detailed information on the therapies that patients receive and changes in their clinical condition over time in order to evaluate and improve care practices and outcomes. In 2013, we recommended that HHS adopt several key requirements to ensure qualified CDRs actually improve the quality and efficiency of care that beneficiaries receive.[37] For example, CMS should require qualified CDRs to demonstrate improvements on key measures of quality and efficiency for their target population and establish a process for monitoring qualified CDRs' compliance with requirements. HHS should also enhance the effect of qualified CDRs on quality and efficiency by making it easier to develop them by promoting the use of health information technology. HHS concurred with each of our recommendations, but also noted some challenges it expects, for example in establishing a set of core measures for qualified CDRs, as we recommended, given the number of clinical specialties on which qualified CDRs may focus. We maintain, however, that a minimum set of core measures—even if small—could help CDRs promote national-level quality improvement initiatives.

End-stage renal disease. In 2013, Medicare spent about $11.7 billion on dialysis care for about 376,000 Medicare patients. Dialysis is the most common treatment for individuals with end-stage renal disease, and while the vast majority of dialysis treatments are performed in dialysis facilities, dialysis treatments received at home may increase autonomy and health-related quality of life for some patients. Physicians and other stakeholders estimate that between 15 and 25 percent of patients needing dialysis could realistically be on home dialysis. In 2012, about 11 percent of patients needing dialysis received home dialysis.

A number of factors can affect the type of dialysis patients receive, including patients' preference and clinical factors, but Medicare payment policy may also play a role. In 2015, we found that dialysis facilities have financial incentives in the short term to increase dialysis treatments provided in facilities.[38] Medicare's monthly payments to physicians for managing the care of home patients are often lower than those for managing in-center patients, which may also discourage physicians from prescribing home dialysis. Further, just a small fraction of Medicare

[37]GAO, *Clinical Data Registries: HHS Could Improve Medicare Quality and Efficiency through Key Requirements and Oversight*, GAO-14-75 (Washington, D.C.: Dec. 16, 2013).

[38]GAO, *End-Stage Renal Disease: Medicare Payment Refinements Could Promote Increased Use of Home Dialysis*, GAO-16-125 (Oct. 15, 2015).

patients have used the Kidney Disease Education benefit—which provides pre-dialysis education and is designed to help patients make informed decisions related to their treatment. Limited use of this benefit may be due to statutory limitations on the types of providers who are permitted to furnish the benefit and on the patients eligible to receive it. We recommended that CMS examine and, if necessary, revise policies for paying physicians to manage the care of dialysis patients, and examine the Kidney Disease Education benefit, and if appropriate, seek legislation to revise the categories of providers and patients eligible for the benefit.[39] HHS concurred with the first recommendation but did not agree with the second, stating that CMS must prioritize its activities to improve care for dialysis patients. We maintain the importance of ensuring that Medicare patients with chronic kidney disease understand their condition and the implications of various treatment options; however, the limited use of the Kidney Disease Education benefit suggests it may be difficult for patients to receive this education.

What Remains to Be Done

Congress, HHS, and CMS have taken steps to improve the fiscal integrity of Medicare, and CMS has implemented some of our recommendations, such as providing more frequent feedback to physicians so they can identify opportunities to reduce costs and rebasing payments for end-stage renal disease services using more recent data, which resulted in per treatment payment reductions. However, continued federal improvements to the oversight of Medicare are warranted given the size and complexity of the program as well as the number and scope of ongoing changes to the program.

We have a number of Matters for Congressional Consideration for addressing Medicare payments, costs, and quality of care. Specifically:

- To increase beneficiaries' awareness of providers' financial interest in a particular treatment, Congress should consider directing the Secretary of Health and Human Services to require providers who self-refer intensity-modulated radiation therapy services—a type of cancer treatment—to disclose to their patients that they have a financial interest in the service.

[39]GAO-16-125.

- To further align Medicare beneficiary use of preventive services with U.S. Preventive Task Force recommendations, Congress should consider requiring beneficiaries who receive services that the Task Force recommends against to share the cost, notwithstanding that cost sharing may not be required for beneficiaries with different characteristics or under different circumstances.
- To help HHS better control spending and encourage efficient delivery of care, Congress should consider requiring Medicare to pay PPS-exempt cancer hospitals as it pays PPS teaching hospitals, or provide the Secretary with the authority to otherwise modify how Medicare pays these providers. To generate cost savings from any reduction in outpatient payments to PPS-exempt cancer hospitals, Congress should also provide that all forgone outpatient payment adjustment amounts be returned to the Supplementary Medical Insurance Trust Fund.
- In order to prevent the shift of services from physician offices to hospital outpatient departments from increasing costs for the Medicare program and beneficiaries, Congress should consider directing the Secretary of Health and Human Services to equalize payment rates between the settings for evaluation and management office visits—and other services that the Secretary deems appropriate—and to return the associated savings to the Medicare program.
- To help HHS ensure accuracy in Part B drug payment rates, Congress should consider requiring all manufacturers of Part B drugs paid at ASP, not only those with Medicaid drug rebate agreements, to submit sales price data to CMS, and ensure that CMS has authority to request source documentation to periodically validate all such data.
- To determine the suitability of Medicare's Part B drug payment rate methodology for drugs with coupon programs, Congress should consider (1) granting CMS the authority to collect data from drug manufacturers on coupon discounts for Part B drugs paid based on ASP, and (2) requiring the agency to periodically collect these data and report on the implications that coupon programs may have for this methodology.

In addition, we have made a range of recommendations to HHS and CMS intended to improve program management and control costs that remain open, including the following:

- To ensure that MA encounter data are of sufficient quality for their intended purposes, the Administrator of CMS should (1) establish

specific plans and time frames for using the data for all intended purposes in addition to risk adjusting payments to MA organizations; and (2) complete all the steps necessary to validate the data, including performing statistical analyses, reviewing medical records, and providing MA organizations with summary reports on CMS's findings, before using the data to risk adjust payments or for other intended purposes.

- To ensure that future low-volume payment adjustments (LVPA) are made only to eligible facilities and to rectify past overpayments, the Administrator of CMS should (1) require Medicare contractors to promptly recoup 2011 LVPA payments that were made in error, (2) improve the timeliness and efficacy of CMS's monitoring regarding the extent to which Medicare contractors determine LVPA eligibility correctly and promptly redetermine eligibility when all necessary data become available, and (3) investigate errors that contributed to facilities not consistently receiving the 2011 LVPA and ensure that such errors are corrected. Additionally, to reduce the incentive for facilities to restrict the services they provide to avoid reaching the LVPA treatment threshold, the Administrator of CMS should consider revisions such as changing the LVPA to a tiered adjustment.
- In order to improve CMS's ability to identify self-referred advanced imaging services and help CMS address the increases in these services, the Administrator of CMS should (1) insert a self-referral flag on its Medicare Part B claims form and require providers to indicate whether the advanced imaging services for which provider bills Medicare are self-referred or not; (2) reduce payments for self-referred advanced imaging services to recognize efficiencies when the same provider refers and performs a service; and (3) determine and implement an approach to ensure the appropriateness of advanced imaging services referred by self-referring providers.
- To increase dual-eligible special needs plans' accountability and ensure that CMS has the information it needs to determine whether dual-eligible special needs plans are providing the services needed by dual-eligible beneficiaries, especially those who are most vulnerable, the Administrator of CMS should evaluate the extent to which dual-eligible special needs plans have provided sufficient and appropriate care to the population they serve, and report the results in a timely manner.
- To help ensure appropriate payments to MA plans, the Administrator of CMS should take steps to improve the accuracy of the adjustment made for differences in diagnostic coding practices between MA and Medicare FFS. Such steps could include, for example, accounting for

additional beneficiary characteristics, including the most current data available, identifying and accounting for all years of coding differences that could affect the payment year for which an adjustment is made; and incorporating the trend of the impact of coding differences on risk scores.

GAO Contact

For additional information about this high-risk area, contact James Cosgrove at (202) 512-7114 or cosgrovej@gao.gov, or Kathleen King at (202) 512-7114 or kingk@gao.gov.

Related GAO Products

Medicare: CMS's Round 2 Durable Medical Equipment and National Mail-Order Diabetes Testing Supplies Competitive Bidding Programs. GAO-16-570. Washington, D.C.: September 15, 2016.

Medicare Part B: Data on Coupon Discounts Needed to Evaluate Methodology for Setting Drug Payment Rates. GAO-16-643. Washington, D.C.: July 27, 2016.

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Medicare: Increasing Hospital-Physician Consolidation Highlights Need for Payment Reform. GAO-16-189. Washington, D.C.: December 18, 2015.

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Medicare: Payment Methods for Certain Cancer Hospitals Should Be Revised to Promote Efficiency. GAO-15-199. Washington, D.C.: February 20, 2015.

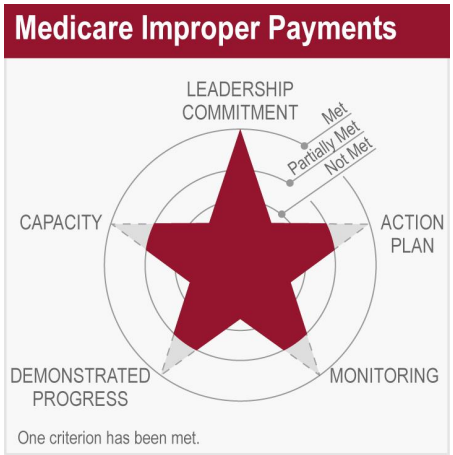
Medicare: Bidding Results from CMS's Durable Medical Equipment Competitive Bidding Program. GAO-15-63. Washington, D.C.: November 7, 2014.

Medicare Improper Payments

Why Area Is High Risk

We designated Medicare as one of the original high-risk programs in 1990 due to its size, complexity, and susceptibility to mismanagement and improper payments. In 2016, Medicare was projected to finance health services for more than 57 million elderly and disabled beneficiaries at a cost of $696 billion, and account for approximately 17.8 percent of federal spending. Improper payments—payments that are either made in an incorrect amount or should not be made at all—are a significant risk for Medicare and reached an estimated $60 billion in fiscal year 2016. The Centers for Medicare & Medicaid Services (CMS), which administers Medicare for the Department of Health and Human Services (HHS), is responsible for overseeing the program and safeguarding it from loss. While Medicare, the largest federal health program, remains inherently complex and susceptible to improper payments, CMS can continue to take actions to prevent and reduce improper payments in the program. This high-risk rating and assessment focuses on CMS's efforts to reduce Medicare improper payments. We discuss the broader challenges and risks associated with the Medicare program separately.

What GAO Found



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

CMS has continued to demonstrate leadership commitment to preventing and reducing Medicare improper payments, but consistently high improper payment rates and unimplemented improvement opportunities have resulted in the agency partially meeting the four remaining criteria for removal from our High-Risk List—capacity, action plan, monitoring, and demonstrated progress. Since our last high-risk update, agency leadership took action to prevent improper payments by strengthening certain provider enrollment and prepayment controls, as we recommended. CMS also implemented our recommendation to improve oversight of contractors that carry out postpayment reviews, such as the Medicare Administrative Contractors (MAC) and Recovery Auditors (RA). The agency also took certain program integrity actions authorized by the Patient Protection and Affordable Care Act (PPACA) and the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA). However, despite these efforts, Medicare improper payment rates remained high in 2016. According to HHS's Agency Financial Report for 2016, although reported improper payments decreased for Medicare fee-for-service (FFS) from 12.1 percent in fiscal year 2015 to 11.0 percent in fiscal year 2016, this rate remained above the statutorily defined compliance threshold of 10 percent.[1] In addition, the improper payment rates increased for Medicare Part C (9.5 percent in fiscal year 2015 to 10.0 percent in fiscal year 2016) and improved somewhat for Part D (3.6 percent in fiscal year 2015 to 3.4 percent in fiscal year 2016).[2] These rates suggest that additional actions are needed to reduce improper payments in the Medicare program. By implementing our open recommendations, CMS will be able to reduce improper payments and progress toward fulfilling the outstanding criteria to remove Medicare improper payments from our High-Risk List.

Congress has also taken actions aimed at helping CMS address this high-risk issue. For example, Congress passed and the President signed into law MACRA in April 2015, which included several provisions aimed at improving Medicare program integrity, such as requiring and providing funding for CMS to remove beneficiaries' Social Security numbers (SSN) from Medicare cards, requiring MACs to have improper payments

[1]See Pub. L. No. 111-204, § 3(a)(3)(F), 124 Stat. 2224, 2233 (codified at 31 U.S.C. § 3321 note).

[2]Medicare contains four parts. Parts A and B are known as Medicare FFS. Part A covers hospital and other inpatient stays and Part B covers hospital outpatient, physician, and other services. Part C, also known as Medicare Advantage (MA), is the private plan alternative to Medicare FFS under which beneficiaries receive benefits through private health plans. Part D is the outpatient prescription drug benefit.

outreach and education programs, and modifying surety bond conditions of participation for home health agencies. Congress has also continued to appropriate discretionary funding for CMS to take action to reduce improper payments. In addition, the House and Senate have held more than 20 hearings in the last 4 fiscal years to identify additional program integrity improvements, including 7 hearings since our 2015 high-risk report.

What Remains to Be Done

Improper payments in all parts of Medicare remain unacceptably high. As Medicare program spending and enrollment are projected to continue to grow under current law, sustained effort will be needed to ensure program integrity and reduce improper payments. If CMS were to effectively implement our numerous recommendations, it could improve program management, make fewer improper payments, and recover more of those it makes. For example, to improve the effectiveness of efforts to reduce and recover improper payments in Part C, CMS should improve the processes for selecting contracts to include in its risk adjustment data validation (RADV) audits—audits of Medicare Advantage (MA) organizations that help CMS recover improper payments in cases where beneficiary diagnoses are unsupported by medical records. We also recommend that CMS enhance the timeliness of these audits and incorporate recovery audit contractors (RAC) into the RADV audit. CMS should also revise its guidance for verifying provider practice locations so that MACs conduct additional research on questionable practice location addresses to help improve Medicare provider and supplier enrollment-screening procedures.

Moreover, CMS should fully implement the following priority recommendations and available procedures authorized by PPACA and MACRA to improve the Medicare improper payment rate and remove this area from our High-Risk List:

- set clear expectations in contract work statements for Part D RAC, conduct annual RAC performance evaluations, and review the process for developing new audit issues to improve the agency's Part D RAC program operations and contractor oversight;
- seek legislative authority to allow the RAs—which typically conduct postpayment reviews—to conduct prepayment claim reviews for Medicare FFS as another means of preventing improper payments before they occur;

- provide guidance to MACs on how to accurately calculate and report savings from prepayment claim reviews to ensure that CMS has the information it needs to evaluate MAC effectiveness in preventing improper payments and evaluate and compare MACs' performance to that of other contractors;
- monitor the database used to track Medicare FFS recovery audit activities to ensure that all postpayment review contractors submit required data and that the data contained in the database are accurate and complete;
- clarify and standardize as much as possible the requirements for the contents of postpayment claims review contractors' correspondence with providers and assess regularly whether contractors are complying with content requirements to improve the efficiency of postpayment claims reviews and simplify compliance for providers; and
- require surety bonds for certain types of at-risk providers and suppliers as authorized by PPACA and MACRA.[3]

Additional Details on What GAO Found

Leadership Commitment

CMS continues to meet our criterion for leadership commitment to reducing Medicare improper payments. Improper payment reduction remains a strategic priority for HHS, and CMS leadership has taken multiple actions that demonstrate its commitment to reducing such payments in the Medicare program, including implementing several of our recommendations. For example, CMS leadership indicated that the agency took steps since our last high-risk update to co-locate all offices whose primary mission is ensuring the integrity of Medicare FFS claims payments, which it believes will improve efficiency for dealing with program integrity issues. CMS also implemented some of our 2012 and 2013 recommendations to improve postpayment reviews and prepayment control efforts. For example, CMS uses several contractors to conduct postpayment reviews for improper payments and the agency has made changes to standardize contractor requirements as we highlighted as a

[3]A surety bond guarantees that if a provider or supplier does not fulfill its obligation to Medicare, CMS can recover its losses via the surety bond.

priority recommendation in the 2015 high-risk update.[4] By aligning these contractor requirements, CMS will likely improve the efficiency and effectiveness of its Medicare program integrity efforts by strengthening the control environment, lessening providers' confusion, and reducing administrative burdens.

In response to our priority recommendations, CMS also began disseminating information about certain contractors' most successful prepayment edits—controls preprogrammed into payment processing systems—and requested that these contractors share information about their top edits, thereby ensuring more widespread use of effective prepayment controls.[5] In 2015, we also recommended changes to improve CMS's enrollment screening procedures for Medicare providers and suppliers, and CMS has implemented several updates to its provider enrollment database that will address identified weaknesses.[6]

Capacity

CMS partially met our criterion that it have the capacity to reduce improper payments in the Medicare program. The Medicare integrity program—along with other activities to detect, prevent, and combat factors that contribute to improper payments—is funded through the Health Care Fraud and Abuse Control (HCFAC) program, which has reported returns on investment of $6.10 for every $1 spent from fiscal year 2013 through 2015. In fiscal year 2016, Congress provided more discretionary HCFAC funding than in any prior year. These funds helped CMS implement planned initiatives to protect Medicare dollars. While CMS received increased discretionary funding since 2015, the budgetary environment remains uncertain, as demonstrated by the 6 percent decline in discretionary Medicare integrity funding from fiscal year 2011 to 2014. Given funding uncertainty and projected spending increases, it is even more important for CMS to prioritize its most effective program integrity

[4]See GAO, *Medicare Program Integrity: Increasing Consistency of Contractor Requirements May Improve Administrative Efficiency*, GAO-13-522 (Washington, D.C.: July 23, 2013).

[5]See GAO, *Medicare Program Integrity: Greater Prepayment Control Efforts Could Increase Savings and Better Ensure Proper Payment*, GAO-13-102 (Washington, D.C.: Nov. 13, 2012).

[6]See GAO, *Medicare Program: Additional Actions Needed to Improve Eligibility Verification of Providers and Suppliers,* GAO-15-448 (Washington, D.C.: June 25, 2015).

initiatives and to maximize the effect of those initiatives already underway by implementing our recommendations.

Action Plan

CMS has partially met our action plan criterion. While CMS identifies and reports progress on corrective actions related to Medicare improper payments in HHS's annual Agency Financial Report, the agency has not implemented all of the recommendations we made that could reduce improper payments nor fully developed an action plan for addressing our high-risk area. HHS's Agency Financial Report for 2016 identified insufficient documentation and medical necessity errors as root causes of improper payments for Medicare FFS, and insufficient documentation and administrative errors as root causes of improper payments for both Parts C and D. The report also identified actions that CMS has taken or is taking to address these causes. For example:

- CMS took action to revalidate existing Medicare providers and suppliers, as required by PPACA. The provider and supplier revalidation is in the second round of a multiyear process to improve enrollment screening that we reported on in 2016. [7] Specifically, we reported that CMS's revised enrollment screening process resulted in over 703,000 existing enrollment records being deactivated or revoked but that CMS needed to establish performance measures to assess the revised process.
- CMS took several corrective actions to address improper payment rates for home health claims, which have historically had improper payment rates over 50 percent. For example, CMS took action to clarify face-to-face requirements for home health providers and implemented prepayment claims reviews in 2015 to help educate home health providers. The improper payment rate for home health claims decreased from 59.0 percent in fiscal year 2015 to 42.0 percent in fiscal year 2016.
- CMS also expanded the use of prior authorization to prevent improper payments for various suppliers. For example, CMS published a final rule in December 2015 that established a Master List of Durable

[7]See GAO, *Medicare: Initial Results of Revised Process to Screen Providers and Suppliers, and Need for Objectives and Performance Measures,* GAO-17-42 (Washington, D.C.: Nov. 15, 2016). In 2011, CMS implemented a revised enrollment screening process and undertook its first program-wide effort to rescreen or revalidate existing providers using the new process. It began its second program-wide revalidation effort in 2016.

Medical Equipment, Prosthetics, Orthotics, and Supplies (DMEPOS) items that providers frequently bill to Medicare when recipients don't need them. The rule, which took effect on February 29, 2016, requires prior authorization for certain DMEPOS items on the Master List, which CMS believes will reduce or prevent questionable billing practices and improper payments for these items. In December 2016, CMS announced that it would begin implementing prior authorization for two types of power wheelchairs not previously covered in a demonstration beginning in March 2016.

Despite these efforts, we have found problems with some of the proposed corrective actions. For Part C improper payments, HHS's 2015 and 2016 Agency Financial Reports identified RADV audits as a primary corrective action. These audits of MA organizations—to which Medicare pays a risk-adjusted monthly amount for each enrolled beneficiary—help CMS recover improper payments from such organizations if they requested CMS to adjust payments based on beneficiary diagnoses unsupported by medical records. However, in April 2016, we reported significant problems with the methods used to select MA contracts for RADV audits and the time it took to complete the audits.[8] For example, using current methods, CMS is unable to select contracts for audit that have the greatest potential for recovering improper payments. These issues limit CMS's ability to recover the billions of dollars in MA improper payments that occur each year.

In addition, CMS has yet to address some problems including those where we have recommended changes. For example, in 2016, we recommended that CMS seek legislative authority to allow RAs to review Medicare FFS claims before they are paid as another means to prevent improper payments before they occur. Although CMS and RA officials told us that a demonstration of RA prepayment reviews was considered successful, the agency disagreed with our recommendation to seek authority to extend this ability and told us that other claim review contractors conduct prepayment reviews and that CMS has implemented other programs as part of its strategy to move away from the "pay and chase" process of recovering overpayments.[9] We continue to believe that prepayment reviews better protect agency funds compared to

[8]See GAO, *Medicare Advantage: Fundamental Improvements Needed in CMS's Effort to Recover Substantial Amounts of Improper Payments,* GAO-16-76 (Washington, D.C.: Apr. 8, 2016).

[9]See GAO, *Medicare: Claim Review Programs Could Be Improved with Additional Prepayment Reviews and Better Data,* GAO-16-394 (Washington, D.C.: Apr. 13, 2016).

postpayment reviews, and that seeking the authority to allow RAs to conduct prepayment reviews is consistent with CMS's strategy to pay claims properly the first time. In not seeking the authority, CMS may be missing an opportunity to reduce the amount of uncollectable overpayments from RA reviews and save administrative resources associated with recovering overpayments. Finally, CMS officials have indicated that the agency is developing an action plan to address our identified high-risk areas, but as of January 2017, the plan was not yet complete.

Monitoring

CMS has taken steps to monitor the effectiveness of its corrective measures, but only partially met our monitoring criterion due to data and oversight challenges. For example, in response to our 2011 recommendation, CMS implemented changes to the data systems its contractors use to track spending on Medicare integrity efforts, thereby improving the agency's ability to assess the effectiveness of these activities.[10] However, other weaknesses limit CMS's ability to monitor activities of the contractors that review Medicare claims before and after payment. In 2016, we reported that CMS does not have reliable data on savings from prepayment claims reviews to evaluate MACs' performance in preventing improper payments or to compare performance across contractors.[11] In response to our report, CMS is developing methodologies to estimate amounts CMS would have paid providers had claim denials based on prepayment review not occurred. Until CMS completes these activities and calculates and reports savings from prepayment reviews, this remains a priority recommendation.

In 2016, we also found that, although CMS has improved its provider and supplier enrollment screening process, it lacked objectives for monitoring this screening process and performance measures to assess progress toward achieving its goals for revalidating enrollment information.[12] Finally, in 2015, we reported that CMS did not adequately set expectations for the RAC hired to oversee Part D payments, did not conduct timely performance evaluations, and did not have a good process

[10]See GAO, *Medicare Integrity Program: CMS Used Increased Funding for New Activities but Could Improve Measurement of Program Effectiveness*, GAO-11-592 (Washington, D.C.: July 29, 2011).

[11]GAO-16-394.

[12]GAO-17-42.

for approving audit work.[13] As a result of these management weaknesses, CMS collected fewer than $10 million in Part D improper payments as of May 2015. Given that Part D improper payments increased from $2.2 billion to $2.4 billion from fiscal year 2015 to 2016, CMS will need to address these issues when it solicits the next Part D RAC contracts.[14]

Demonstrated Progress

CMS has demonstrated some progress, including a decrease in the Medicare FFS and Part D improper payment rates in fiscal year 2016, but the size of the program and persistently high improper payment rates for some parts of Medicare indicate further progress is needed. As noted, CMS has taken various actions to improve Medicare program integrity, such as updating eligibility enrollment software, revalidating existing providers and suppliers, and reducing differences in contractor postpayment review requirements; however, it has yet to be determined how many of these changes will affect CMS's long-term ability to prevent and collect improper payments. In addition, Congress enacted MACRA, which, among other things, required and provided funding for CMS to remove beneficiaries' SSNs from Medicare cards and develop a new, unique identifier—which we also recommended in 2012 and have highlighted as a priority recommendation.[15] In 2016, CMS reported that it had begun the process of removing SSNs from Medicare cards and will begin replacing them with randomly generated Medicare Beneficiary Identifiers in 2018; however, such changes will not be fully implemented until 2019. CMS has indicated that certain other corrective actions—like expanding the use of prior authorization—have successfully reduced improper payments in several demonstration projects and provider education initiatives, and as a result, the agency is in the process of expanding such efforts. Moreover, CMS has yet to implement certain PPACA-authorized actions as we encouraged the agency to do in our

[13]See GAO, *Medicare Part D: Changes Needed to Improve CMS's Recovery Audit Program Operations and Contractor Oversight,* GAO-15-633 (Washington, D.C.: Aug. 14, 2015).

[14]Although the Part D error rate decreased from 3.6 percent to 3.4 percent from fiscal year 2015 to 2016, the dollar value increased.

[15]Pub. L. No. 114-10, § 501, 129 Stat. 87, 163 (2015). See GAO, *Medicare: CMS Needs an Approach and a Reliable Cost Estimate for Removing Social Security Numbers from Medicare Cards*, GAO-12-831 (Washington, D.C.: Aug. 1, 2012) and GAO, *Medicare Information Technology: Centers for Medicare and Medicaid Services Needs to Pursue a Solution for Removing Social Security Numbers from Cards*, GAO-13-761 (Washington, D.C.: Sept. 10, 2013).

2015 high-risk report. For example, PPACA authorized CMS to impose surety bonds on certain at-risk providers to strengthen provider enrollment protections.[16] MACRA also included a provision to require surety bonds for all home health agencies as a condition of Medicare participation.[17] CMS has stated that the agency is working to implement this requirement, but, as of December 2016, CMS had not issued rules to do so. Continued progress in these and other efforts is needed, as Medicare FFS, Part C, and Part D all remained on the Office of Management and Budget's list of high-error programs in 2015. Sustained control over payments and program integrity management is needed before Medicare improper payments can fully meet our criterion for demonstrated progress.

Benefits Achieved by Implementing Our Recommendations

- Our body of work on improper payments has raised the level of attention to this issue, including Medicare improper payments, and contributed to the passage of the Improper Payments Information Act of 2002 (IPIA) and subsequent improper payment legislation. These laws require, among other things, agencies to estimate their annual amount of improper payments and report on actions to reduce them. In part from our continued oversight of CMS's efforts to meet the requirement of IPIA, both Medicare Part C and Part D have reduced overpayment rates, a component of the total program improper payment rate, since each program began reporting improper payments in 2009 and 2011, respectively. Specifically, we determined that Medicare Part C had cost savings associated with overpayment error rate reductions of $1.2 billion in fiscal year 2010, $5.1 billion in fiscal year 2011, $6.2 billion in fiscal year 2013, and $8.9 billion in fiscal year 2014. Part D had cost reduction of $209.8 million in fiscal year 2014 and $51.1 million in fiscal year 2015.
- In 2012, we reported that CMS had not integrated its predictive analytics system, known as the Fraud Prevention System (FPS), with its claims processing and payment systems to allow for the automated

[16]Pub. L. No. 111-148, § 6402(g), 124 Stat. 119, 759 (2010) (codified at 42 U.S.C. § 1395y(n)). A surety bond is a three-party agreement in which a company, known as a surety, agrees to compensate the bondholder if the bond purchaser fails to keep a specified promise.

[17]Pub. L. No. 114-10, § 513, 129 Stat. at 171 (codified at 42 U.S.C. § 1395x(o)(7)).

prevention of potentially fraudulent Medicare claims payments.[18] We recommended that the agency develop schedules for completing integration of these systems. In response, CMS implemented capabilities which allowed FPS to stop payment of certain improper and non-payable claims including a total of $26.2 million of cost savings in 2014 and 2015.

- In 2012, we made several recommendations to CMS to promote greater use of effective prepayment edits and better ensure proper payment, to promote implementation of effective edits based on national policies, and to encourage more widespread use of effective local edits by MACs.[19] In response to these recommendations, CMS began disseminating information about certain contractors' most successful prepayment edits—controls preprogrammed into payment processing systems—requested that these contractors share their top edits, and made improvements to certain edits that identify services billed in medically unlikely amounts. The agency also revised its standard operating procedures to ensure consideration of automated edits for all new and existing national coverage determinations—which describe the circumstances under which Medicare will cover services nationwide—as we recommended. These changes help CMS ensure Medicare payments are made properly the first time.
- Beginning in 2013, CMS took several actions to improve its process for addressing RAC-identified vulnerabilities that led to improper payments as we recommended in 2010.[20] For example, the agency created a protocol to determine the effectiveness of certain corrective actions and established regular meetings to discuss RAC issues. By taking these steps, CMS established monitoring and control activities to ensure that corrective actions are taken that help meet the overall goal of reducing improper payments in the Medicare program.
- In response to our 2011 recommendation, CMS implemented changes in 2014 to the data systems MACs use to track spending on Medicare integrity efforts, thereby improving the accuracy of spending

[18]GAO, Medicare Fraud Prevention: *CMS Has Implemented a Predictive Analytics System, but Needs to Define Measures to Determine Its Effectiveness*, GAO-13-104 (Washington, D.C.: Oct. 15, 2012).

[19]GAO-13-102.

[20]GAO, *Medicare Recovery Audit Contracting: Weaknesses Remain in Addressing Vulnerabilities to Improper Payments, Although Improvements Made to Contractor Oversight*, GAO-10-143 (Washington, D.C.: Mar. 31, 2010).

estimates.[21] These changes improve the agency's ability to assess the effectiveness of their Medicare integrity activities.

- In 2015, we reported weaknesses in the screening procedures CMS uses to prevent and detect ineligible or potentially fraudulent providers and suppliers from enrolling in the Medicare Provider Enrollment, Chain and Ownership System (PECOS).[22] Specifically, we found that the computer software CMS uses to validate applicants' addresses does not flag potentially ineligible addresses. In addition, we found that CMS's process for verifying providers' licenses did not always identify providers' adverse actions when enrolling, revalidating, or reviewing provider's licenses unless the provider self-reported the action. In response to recommendations we made to address these issues, CMS updated its address verification software and incorporated information from the Federation of State Medical Boards into its automatic screening process thereby improving the integrity of Medicare provider enrollment.
- In 2012 and 2013, we made recommendations to CMS to remove beneficiary SSNs from the Medicare insurance card in order to protect beneficiaries from identity theft.[23] In response to our recommendations and in accordance with MACRA, CMS initiated a project in 2016 to replace beneficiary SSNs with a non SSN-derived Medicare Beneficiary Number. Removing SSNs from Medicare cards better protects Medicare beneficiaries from identity theft and provides CMS with a useful tool in combatting Medicare fraud and medical identity theft.
- In 2011, we identified instances of questionable access to prescription drugs in the Part D program and made a recommendation to CMS to improve its efforts to curb overutilization in Part D.[24] In response to our recommendation, CMS conducted a case management pilot in 2012 to improve retrospective drug utilization program controls, developed a drug utilization review methodology to target Part D beneficiaries who are at risk due to high use of opioids, and implemented an overutilization monitoring system to ensure Part D sponsors are implementing effective controls against opioid overutilization. By implementing these changes, CMS has taken an

[21]GAO-11-592.

[22]GAO-15-448.

[23]GAO-12-831, GAO-13-761.

[24]GAO, Medicare Part D: Instances of Questionable Access to Prescription Drugs, GAO-11-699 (Washington, D.C.: Sept. 6, 2011).

important step toward insuring the safety of Medicare beneficiaries and reducing the abusive practice of doctor shopping for prescription drugs.

GAO Contact

For additional information about this high-risk area, contact Kathleen King at (202) 512-7114 or kingk@gao.gov.

Related GAO Products

Medicare: Initial Results of Revised Process to Screen Providers and Suppliers, and Need for Objectives and Performance Measures. GAO-17-42. Washington, D.C.: November 15, 2016.

Skilled Nursing Facilities: CMS Should Improve Accessibility and Reliability of Expenditure Data. GAO-16-700. Washington, D.C.: September 7, 2016.

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Medicare: Claim Review Programs Could Be Improved with Additional Prepayment Reviews and Better Data. GAO-16-394. Washington, D.C.: April 13, 2016.

Medicare Advantage: Fundamental Improvements Needed in CMS's Effort to Recover Substantial Amounts of Improper Payments. GAO-16-76. Washington, D.C.: April 8, 2016.

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Medicare Program: Additional Actions Needed to Improve Eligibility Verification of Providers and Suppliers. GAO-15-448. Washington, D.C.: June 25, 2015.

Medicare: Potential Uses of Electronically Readable Cards for Beneficiaries and Providers. GAO-15-319. Washington, D.C.: March 25, 2015.

Medicaid Program

Current State of the Medicaid Program

Overview of Medicaid's Challenges

The size, growth, and diversity of the Medicaid program presents oversight challenges, and we designated Medicaid as a high-risk program in 2003 due to concerns about the adequacy of fiscal oversight. Medicaid is one of the largest sources of funding for acute health care, long-term care, and other services for low-income and medically needy populations. This federal-state program covered an estimated 72.2 million people in fiscal year 2016 and is the largest health program as measured by enrollment and the second largest as measured by expenditures, second only to Medicare. A source of significant pressure on federal and state budgets, estimated Medicaid outlays for fiscal year 2016 were $575.9 billion, of which $363.4 billion was financed by the federal government and $212.5 billion by the states.[1]

Medicaid allows states significant flexibility to design and implement their programs, resulting in more than 50 distinct programs; this variability complicates program oversight and has contributed to challenges in overseeing program payments and beneficiaries' access to services.[2] Each state Medicaid program, by law, must cover certain categories of individuals and provide a broad array of benefits. Populations covered include children in low-income families and low-income individuals who are elderly, disabled, or are experiencing high medical needs. Medicaid's extensive benefit package includes coverage for acute care services, primary care services, long-term care services, and comprehensive screening and treatment services for children.

Within these broad parameters, however, states administer their own programs, deciding whether to cover any health services or populations

[1]Centers for Medicare & Medicaid Services, Office of the Actuary, *2016 Actuarial Report on the Financial Outlook for Medicaid* (Baltimore, Md.: 2017).

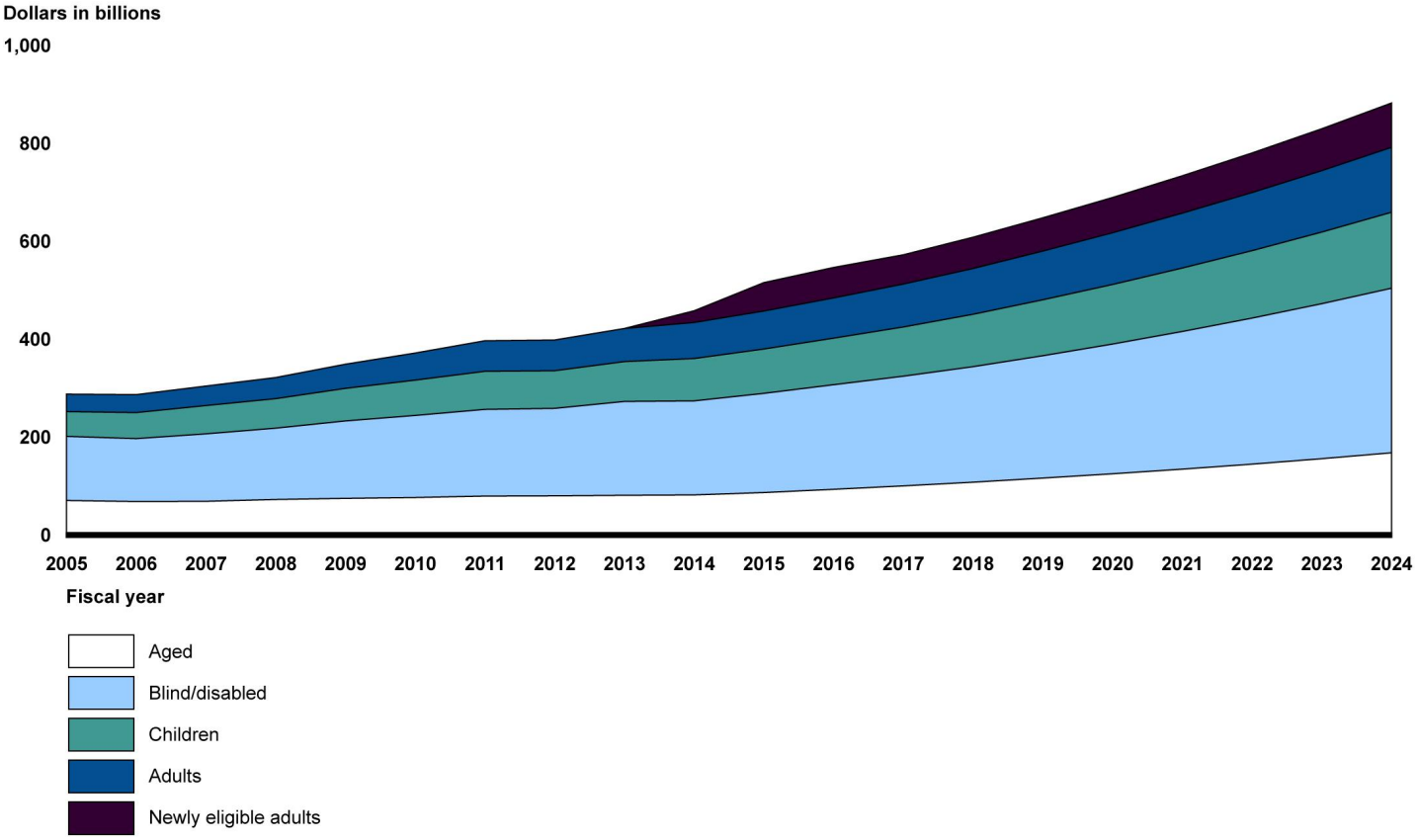
[2]Medicaid essentially operates as 56 separate programs—1 in each of the 50 states, the District of Columbia, and each of the 5 largest U.S. territories: American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, Puerto Rico, and the U.S. Virgin Islands.

beyond what are mandated by law, setting provider reimbursement rates, and operating state-specific data systems to enroll eligible beneficiaries and providers and to process and pay claims. For example, states may pay health care providers for each service they provide on a fee-for-service (FFS) basis; contract with managed care organizations (MCO) to provide a specific set of Medicaid-covered services to beneficiaries, and pay them a set amount per beneficiary per month; or rely on a combination of both delivery systems.

Variability among state Medicaid programs also results from key Medicaid reform efforts that states may initiate. For example, under Section 1115 of the Social Security Act, the Secretary of Health and Human Services can waive traditional Medicaid requirements and authorize states to expend funds on Medicaid demonstrations to test new ways to deliver services. State Medicaid programs also differ in whether and how they have elected to expand Medicaid as allowed under the Patient Protection and Affordable Care Act (PPACA), which gave states the option to expand Medicaid eligibility to nearly all adults under age 65 with incomes up to 133 percent of the federal poverty level (hereafter referred to as newly eligible adults).[3] States that elected to expand Medicaid received 100 percent federal funding for this newly eligible population through 2016, with the federal share declining to 90 percent for 2020 and subsequent years. As of October 2016, 31 states and the District of Columbia had opted to expand Medicaid eligibility under PPACA. In 2015, the Centers for Medicare & Medicaid Services (CMS) projected that total spending for Medicaid will rise an average of 6.4 percent per year from 2015 to 2024 (see figure 19).

[3]PPACA also provides for 5 percent of an applicant's income to be disregarded when calculating modified adjusted gross income for determining Medicaid eligibility, which effectively increases this income level to 138 percent of the federal poverty level.

Figure 19: Growth Trends in Total Medicaid Spending by Eligibility Group



Source: 2015 Actuarial Report on the Financial Outlook for Medicaid (data not published). | GAO-17-317

States also vary in the extent to which they are affected by economic downturns, which in turn can affect their Medicaid programs. The federal government matches most state expenditures using a statutory formula based in part on each state's per capita income. We and others have noted that states' efforts to fund Medicaid can be challenged during economic downturns, when Medicaid enrollment can rise and state revenues can decline. To ensure that federal funding efficiently and effectively responds to the program's countercyclical nature, we have emphasized the need for timely and targeted federal assistance to stabilize states' funding of Medicaid during such periods.[4] Such

[4]See GAO, *Medicaid: Changes to Funding Formula Could Improve Allocation of Funds to States,* GAO-16-377T (Washington, D.C.: Feb. 10, 2016); and *Medicaid: Prototype Formula Would Provide Automatic, Targeted Assistance to States during Economic Downturns*, GAO-12-38 (Washington, D.C. Nov. 10, 2011).

assistance would support states with declining revenues or increased enrollment during a national economic downturn, further stabilizing the financing of this important program.

An overarching challenge for the Medicaid program is the lack of accurate, complete, and timely data CMS needs to oversee the diverse and complex state Medicaid programs. Our work has made it clear that insufficient data have affected CMS's ability to ensure proper payments and beneficiaries' access to services. CMS's two primary data sets—the CMS-64, which serves as the basis for calculating the amount of federal matching funds for states, and the Medicaid Statistical Information System (MSIS), which is designed to report individual beneficiary claims data—have the potential to offer a robust view of state financing, payments, and overall spending in the Medicaid program. However, the data's usefulness is limited because of issues with completeness, timeliness, and accuracy. Improved data would enhance CMS oversight, allowing for improved monitoring of program financing and payments, beneficiary access, and compliance with Medicaid laws and requirements. CMS has acknowledged the need for improved Medicaid data and has undertaken a number of steps aimed at streamlining and improving the quality of data currently reported by states and available to CMS for oversight purposes.[5]

Our Work Suggests the Need for Continued Attention in Five Principal Areas

The effects of ongoing reforms and other changes to the Medicaid program will continue to emerge in the coming years, and congressional interest in how to improve this important program remains high. In July 2015—the 50th anniversary of Medicaid—we testified on key issues facing the program and oversight gaps, based on dozens of our reviews of the Medicaid program.[6] That report and our other work to date illustrate

[5]In its Comprehensive Medicaid Integrity Plan, CMS noted efforts to improve the quality and consistency of Medicaid data reported to CMS. See CMS, *Comprehensive Medicaid Integrity Plan, Fiscal Years 2014-2018*. For example, CMS has an ongoing effort to implement the Transformed Medicaid Statistical Information System (T-MSIS) to increase and improve the data collected through MSIS. T-MSIS is to include data about enrollees, services, and costs, including FFS claims, managed care encounters, beneficiary eligibility and demographics, and provider enrollment.

[6]See GAO, *Medicaid: Overview of Key Issues Facing the Program,* GAO-15-746T (Washington, D.C.: July 8, 2015).

the continuing challenges facing Medicaid and the need for improved federal oversight in five areas:

1. Financing and Provider Payment Transparency and Oversight
2. Managed Care Payments and Utilization Oversight
3. Growing Expenditures for and Oversight of Large Medicaid Demonstrations
4. Monitoring and Measurement of Access to Quality Care
5. Growing Expenditures for Long-Term Care Services

Financing and Provider Payment Transparency and Oversight

Complete and accurate data on state financing and payments to individual providers is essential for CMS to effectively oversee state Medicaid programs. Without more transparent information on state funding sources and program payments, CMS is unable to determine whether program expenditures are appropriate or to ensure the fiscal integrity of the program. Congress has held multiple hearings on these issues, including a November 2015 hearing at which the House Committee on Energy and Commerce, Subcommittee on Health, examined possible legislative remedies to address concerns we have raised in multiple reports about the transparency of Medicaid financing and payments to individual providers.[7]

Financing transparency and oversight. In recent years, states have increasingly relied on funds from providers and local governments to finance the nonfederal share of Medicaid, with implications for federal costs. While states finance the nonfederal share in large part through state general funds, they also depend on other sources of funds, such as taxes on health care providers and transfers of funds from local governments. Our 2013 survey of states found that, in 2012, states financed over one-quarter—over $46 billion—of the nonfederal share of Medicaid with funds from health care providers and local governments, an

[7]See GAO, *Medicaid: Completed and Preliminary Work Indicate that Transparency around State Financing and Payments to Providers Is Still Needed for Oversight,* GAO-14-817T (Washington, D.C.: July 29, 2014); *Medicaid: Overview of Key Issues Facing the Program,* GAO-15-746T (Washington, D.C.: July 8, 2015); and *Medicaid: Improving Transparency and Accountability of Supplemental Payments and State Financing Methods,* GAO-16-195T (Washington, D.C.: Nov. 3, 2015).

increase of over 21 percent since 2008 from these sources. Our work has illustrated that by requiring providers to supply all or more of the nonfederal share of Medicaid payments, states can claim an increase in federal matching funds without a commensurate increase in state expenditures. This shifts costs from the state to the federal government.

Identifying the sources of nonfederal funds is essential to assessing their effect; however, CMS does not collect complete or accurate information on these sources of nonfederal funds. Apart from data on provider taxes and donations, CMS does not require states to provide information on the funds they use to finance Medicaid nor ensure that the data they do collect are accurate and complete. This lack of transparency in states' sources of funding hinders CMS's ability to determine whether increasing payments to providers provides fiscal relief to the state or whether increasing payments to providers improves beneficiary access. Without accurate information on how states finance their Medicaid programs, CMS is also unable to ensure that states comply with federal requirements. For instance, under federal law, at least 40 percent of the state share must be from state funds, which includes state general funds, provider taxes and donations, and transfers from other state agencies.[8] CMS disagreed with our recommendation to take action to improve the information available on states' sources of the nonfederal share of Medicaid payments. In 2015, legislation was introduced that would require CMS to take such action.[9]

Oversight of payments to institutional providers. Over the years, we and others have reported on CMS's oversight of payments that states often make to institutional providers, such as hospitals and nursing facilities, which have raised questions. In particular, concerns have been raised about states making large Medicaid supplemental payments—payments in addition to the regular, claims-based payments made to providers for services they provided—often to government providers, such as local government and state-operated hospitals and other health

[8]The remaining 60 percent may be derived from funds from local governments. 42 U.S.C. § 1396a(a)(2).

[9]For example, H.R. 1362 was introduced in March 2015 to require each state to report each source of funds, each entity providing such funds, and the amount of funds from each source, used by the state to finance the non-federal share of expenditures under Medicaid. On November 3, 2015, the House Committee on Energy and Commerce, Subcommittee on Health, held a hearing at which our concerns related to transparency of state financing arrangements were discussed. However, no additional action was taken on H.R. 1362 in the 114th Congress.

care facilities.[10] In fiscal year 2015, the latest date for which data are available, these payments totaled about $55 billion. Supplemental payments that result in total Medicaid payments well in excess of a provider's costs raise questions about whether payments are consistent with the statutory requirement that payments be economical and efficient and are actually for covered Medicaid services.[11]

Among other concerns related to CMS oversight of supplemental payments, we have found the agency lacks a policy and process for determining whether payments made to individual providers are economical and efficient, as required by law, and lacks clear guidance on appropriate methods for states to distribute payments.[12] For example, in 2015, we reported that three hospitals in New York received supplemental payments that resulted in overall Medicaid payments to the hospitals that greatly exceeded their cost of providing Medicaid services. CMS, in response, required New York to retroactively reduce supplemental payments to the hospitals by more than $1.5 billion—including $771 million in federal funds—over 4 years.

Further, in a 2016 report, we found that selected states distributed supplemental payments to hospitals largely based on the availability of local government funds to finance the nonfederal share, rather than on the volume of services each hospital provided. In addition, officials from hospitals that received payments above costs reported using the excess

[10]Supplemental payments made by states include Disproportionate Share Hospital (DSH) payments, Medicaid Upper Payment Limit (UPL) payments, and supplemental payments authorized under Medicaid demonstrations. States are required by federal law to make DSH payments to certain hospitals to help offset these hospitals' uncompensated care costs for serving large numbers of Medicaid and uninsured low-income individuals. Medicaid UPL supplemental payments are made by states to hospitals and other providers that are above the regular Medicaid payments but within the UPL, which is defined as the amount that Medicare would pay for comparable services. Under Section 1115 of the Social Security Act, states may apply to and receive approval from CMS for a demonstration that allows states to deviate from their traditional Medicaid program. Spending authorities under the demonstrations provide states with the ability to claim federal Medicaid funds for new types of expenditures, including the costs of making additional payments, that is, supplemental payments, to providers from funding pools authorized under the demonstrations.

[11]Concerns have also been raised about higher, regular claims-based payments made to government facilities.

[12]Federal law requires that payments to providers be economical and efficient, as well as sufficient to ensure that Medicaid care and services are available at least the extent that such care and services are available to the general population in the same geographic area. 42 U.S.C. § 1396a(a)(30)(A).

revenues from these supplemental payments broadly, from covering the costs of uninsured patients to funding general hospital operations, maintenance, and capital purchases, such as for a helicopter.

Based on the findings from these reports, we have recommended that CMS (1) clarify criteria for determining the economy and efficiency of payments to individual providers, (2) issue guidance clarifying its policies that supplemental payments should be linked to the provision of Medicaid services and not be contingent on the availability of local financing, and (3) require provider-specific reporting of certain types of supplemental payments. In 2015, legislation was proposed that would require CMS to collect provider-specific data on states' supplemental payments.[13] As of fall 2016, CMS was pursuing regulatory actions to address some of the concerns we raised, including requiring states to report information about how they distribute supplemental payments.

Managed Care Payments and Utilization Oversight

As of 2014, the latest date for which this information is available, more than three-fourths of Medicaid beneficiaries received some of their services in a managed care delivery system, in which the state typically contracts with managed care organizations (MCO) to provide a specific set of services for beneficiaries for a set amount per beneficiary per month. Federal spending for managed care in fiscal year 2014 was $107 billion, which accounted for over one-third of federal Medicaid spending that year and represented a significant increase from 2013. Increased enrollment and spending for Medicaid managed care makes effective federal and state oversight of this large and complex component of the Medicaid program critical, and underscores the need for reliable data to assess the appropriateness of states' payments to MCOs and beneficiaries' access to MCO services. In our work examining federal expenditures for MCOs, we determined that state payments to MCOs in 2014 varied widely across and within 8 states as did the average annual MCO payments per beneficiary, which ranged from $2,784 in California to

[13]For example, H.R. 2151 was introduced in April 2015, to require states to conduct annual audits, and report annually on Medicaid UPL payments to individual institutional providers. It would also require the Secretary of HHS to issue guidance to states that identifies permissible methods for calculating Medicaid UPL payment amounts. On November 3, 2015, the Subcommittee on Health, House Energy and Commerce Committee held a hearing to discuss this and other legislation proposed to improve the Medicare and Medicaid programs. However, no additional action was taken on H.R. 2151 in the 114th Congress.

$5,180 in Pennsylvania.[14] While this variation could be due, in part, to differences in the enrolled population and geographic costs and utilization patterns, it suggests the need to further examine the relationship between higher MCO spending and beneficiaries' experiences.

Further, federal law requires states to collect encounter data—records of health care services for which MCOs pay—and submit these data to CMS using MSIS. Having reliable encounter data that provides information on service utilization is important as MCOs receive a fixed amount per beneficiary regardless of the number of services used and therefore may have financial incentives to limit beneficiaries' access to services. However, in our work examining beneficiary utilization of services, we could not fully assess utilization patterns for Medicaid managed care beneficiaries in 19 states because MSIS data were either not available (11 states) or were unreliable (8 states).[15] In May 2016, CMS issued a final rule for Medicaid managed care that includes provisions aimed at improving Medicaid managed care encounter data submissions.[16] For example, for contracts with MCOs and limited benefit health plans beginning on or after July 1, 2017, states are required to include provisions regarding the maintenance of encounter data, and, by July 1, 2018, to have procedures in place to validate that the enrollee encounter data these entities submit are complete and accurate.[17]

Growing Expenditures for and Oversight of Large Medicaid Demonstrations

Medicaid demonstrations have become a significant proportion of Medicaid expenditures, growing steadily from about $50 billion, or about 14 percent of total Medicaid expenditures in fiscal year 2005, to $165

[14]These numbers reflect the average payment per full year equivalent, which represents 12 months of enrollment.

[15]Among other reasons, we determined that data were unreliable in that states reported that fewer than 30 percent of beneficiaries used at least 1 service, a threshold established by Mathematica for evaluating the completeness and usability of the data, and states did not report services using a standard coding convention. See GAO, *Medicaid: Service Utilization Patterns for Beneficiaries in Managed Care*, GAO-15-481 (Washington, D.C.: May 29, 2015).

[16]81 Fed. Reg. 27498 (May 6, 2016).

[17]Under the rule, CMS may defer or disallow federal matching funds on all or part of an MCO's contract if its data do not comply with regulatory requirements. 81 Fed. Reg. at 27881, 27895 (to be codified at 42 C.F.R. §§ 438.242, 438.818).

billion, or close to one-third of total Medicaid expenditures in fiscal year 2015.[18] Section 1115 of the Social Security Act authorizes the Secretary of HHS to waive certain federal Medicaid requirements and allow costs that would not otherwise be eligible for federal matching funds for experimental, pilot, or demonstration projects that are likely to assist in promoting Medicaid objectives. The demonstrations can provide a way for states to test and evaluate new approaches for delivering Medicaid services. By policy, demonstrations should be budget neutral to the federal government; that is, they must not increase federal costs. In July 2015, CMS changed its organizational structure and increased its staffing to oversee section 1115 demonstrations and their growing role in the Medicaid program, and we continue to assess CMS's approval and oversight of spending for these demonstrations.

Expenditure authorities in Medicaid demonstrations. Using its authority under Section 1115 of the Social Security Act to approve costs that would not otherwise be matchable under Medicaid, HHS has approved Medicaid spending for a wide range of purposes beyond extending coverage to new populations or for new benefits. For example, HHS approved demonstrations that allowed 5 states to spend up to $9.5 billion to fund state health programs that were previously financed at least in part by the state or potentially other federal programs. HHS also approved 8 states to make more than $26 billion in supplemental payments to hospitals and other providers. We found that HHS's criteria and approval documents were not always clear as to how approved spending would further Medicaid objectives.[19] For example, some of these state programs appeared to be only tangentially related to improving health outcomes for low-income individuals and lacked documentation explaining how approving them would promote Medicaid objectives. We also found that demonstration approvals sometimes lacked assurances that demonstration spending would not duplicate other federal funds received by states.

In response to our work, HHS issued general criteria for determining whether demonstrations met Medicaid objectives, which it had not delineated before. HHS also committed to identifying in approval

[18]Expenditures are adjusted for inflation to 2015 dollars using the gross domestic product price index and exclude administrative costs.

[19]GAO, *Medicaid Demonstrations: Approval Criteria and Documentation Need to Show How Spending Furthers Medicaid Objectives*, GAO-15-239 (Washington, D.C.: Apr. 13, 2015).

documents how each expenditure authority promoted Medicaid objectives and providing assurances that demonstration funds would not duplicate other federal funds. While issuing the general criteria is a useful first step, we maintain that given the breadth of the Secretary's authority under section 1115—the exercise of which can result in billions of dollars of federal expenditures for costs that would not otherwise by allowed under Medicaid—more explicit criteria are needed.

Budget neutrality of Medicaid demonstrations. We remain concerned about the Secretary of HHS's lack of an adequate budget neutrality policy including the criteria and process for reviewing and approving demonstration spending limits and the lack of a written, up-to-date policy that is readily available to state Medicaid directors and others. In multiple reports, we have found that federal spending on Medicaid demonstrations could be reduced by billions of dollars if HHS were required to improve the process for reviewing, approving, and making transparent the basis for spending limits approved for Medicaid demonstrations. For example, in 2014, we reported that HHS had approved a spending limit for Arkansas's demonstration—to test whether providing premium assistance to purchase private coverage through the health insurance exchange would improve access for newly eligible Medicaid beneficiaries—that was based, in part, on hypothetical, not actual, costs. We estimated that by allowing the state to use hypothetical costs, HHS approved a demonstration spending limit that was over $775 million more than what it would have been if it was based on the state's actual payment rates for services under the traditional Medicaid program.

Another troubling precedent is that HHS granted Arkansas and 11 other states additional flexibility in their demonstrations to increase the spending limit if costs proved higher than expected.[20] Our report on Arkansas was the latest in a series of reports showing significant concerns with HHS's process for reviewing and approving spending under demonstrations. For example, in 2013 we reported that, for 4 of 10 demonstrations we reviewed, HHS approved spending limits that exceeded those that were supported in documentation and by HHS's own policy by an estimated $32 billion. We have recommended that HHS (1) better ensure that valid methods are used to demonstrate budget

[20]In September 2014, the Chairman of the House Committee on Energy & Commerce and the Ranking Member of the Senate Committee on Finance sent a letter to CMS asking among other things how the agency planned to ensure that spending for those newly eligible under Arkansas's demonstration would not cost the federal government more than it would have cost under traditional Medicaid.

neutrality, (2) clarify criteria for reviewing and approving demonstration spending limits, (3) document and make public the basis for approved spending limits, and (4) update its written budget neutrality policy to reflect the actual criteria and processes used to develop and approve demonstration spending limits.

HHS has generally disagreed that changes to its policy and process are needed. Congress has held hearings, sent letters to CMS, and proposed legislation regarding how CMS reviews and approves demonstration spending limits. Although HHS has not issued a written budget neutrality policy as of October 2016, HHS has taken some steps to improve its oversight, including issuing a report in October 2015 to Congress on actions taken with respect to Medicaid demonstrations. The report discussed some steps HHS has taken and planned to take to improve access to program information and the transparency of its criteria for approving expenditures. Further, in 2016 HHS took steps to change its budget neutrality methodology that are intended to result in more appropriate demonstration spending limits.[21] Nonetheless, we maintain that HHS must take the additional actions specified in our recommendations to improve the transparency of its demonstration approvals.

Monitoring and Measurement of Access to Quality Care

Access to appropriate care has been a concern because of the needs and vulnerability of the individuals covered by Medicaid, including children, the elderly, and the disabled. National survey data have suggested that access reported by Medicaid beneficiaries is comparable to that of individuals with private health insurance in many areas, but that Medicaid beneficiaries do face particular challenges in accessing certain types of care.[22] To help assess Medicaid enrollees' access to care, CMS needs better data.

Access to preventive, oral, and mental health services. The higher prevalence of some health conditions among Medicaid beneficiaries

[21]For example, according to CMS officials, starting in May 2016, the agency began reducing the amount of accumulated savings that states can carry over when demonstrations are renewed, which was previously unlimited.

[22]In calendar years 2008 and 2009, less than four percent of beneficiaries who had Medicaid coverage for a full year reported difficulty obtaining medical care, which was similar to individuals with full-year private insurance.

nationally that can be identified and managed by preventive services suggests that more can and should be done to ensure Medicaid beneficiaries receive these services. For example, states are required to provide preventive services for children through the Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) benefit. However, national data collected by HHS suggest that Medicaid beneficiaries receive these services at rates below established goals. In addition, our 2016 work showed that, due to variation across states in the scope, functionality, and availability of resources on provider information, Medicaid beneficiaries in FFS arrangements may face challenges in identifying available providers in their respective states. State Medicaid programs have also struggled to ensure that beneficiaries, particularly children, receive appropriate oral health and mental health services when needed. High rates of dental diseases remain prevalent across the nation, especially in vulnerable and underserved populations. Medicaid beneficiaries, children in particular, have increased their use of dental services but still visited the dentist less often than privately insured children. These visits are essential to preventing future high cost dental services. Medicaid children may also have problems accessing mental health providers and may not be receiving appropriate mental health treatment and services. For example, national survey data indicate concerns that some children enrolled in Medicaid may be inappropriately prescribed psychotropic drugs and are not receiving needed mental health services, such as counseling and therapy.

Better data needed to assess enrollees' access to care. CMS's ability to assess beneficiaries' access to services is complicated by insufficient data. For example, in reviewing states' EPSDT reports for our 2011 report, we found reporting errors large enough to overstate the extent to which children received services, and we found that states did not always report required data on the number of children referred for additional services. Further, the currently reported state data do not indicate whether children referred for preventive services actually received the services.

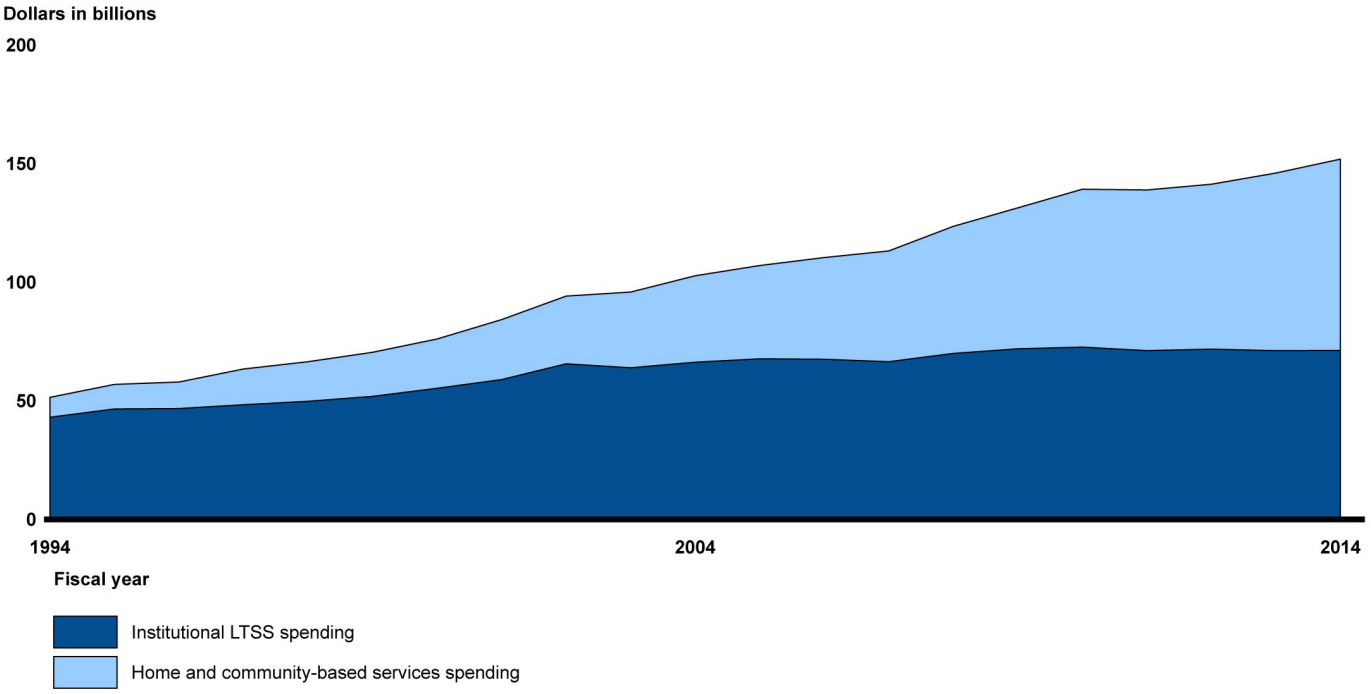
CMS has taken steps to better identify reporting errors and obtain corrected data, but as of September 2016, CMS has no plans to require states to report whether children received the treatment services for which they were referred. Our 2015 work on MCOs described above also points out the need for better data to understand MCO beneficiaries' access to covered services, including differences in access that could help explain the wide variation in MCO payments per beneficiary we identified. Finally, given that PPACA requires states to cover certain

recommended preventive services for newly eligible adults in states that expanded Medicaid under the law, data are needed to determine whether this coverage helps improve beneficiaries' access to and receipt of these services.

Growing Expenditures for Long-Term Care Services

Medicaid is the nation's primary payer of long-term care services and supports (LTSS) for aged and disabled individuals. Medicaid spending (federal and state) on LTSS is significant—in 2016, we reported LTSS spending was an estimated $152 billion in fiscal year 2014 (see figure 20), or about one-quarter of the program's total expenditures annually. The demand for LTSS is expected to increase as the nation's population ages and life expectancy increases, including individuals with disabilities and complex health needs who require long-term services and supports.

Figure 20: Medicaid Expenditures for Long-Term Services and Supports, Fiscal Years 1994-2014



Source: GAO analysis of data from the Centers for Medicare & Medicaid Services. | GAO-17-317

Monitoring of long-term care services provided in the community. Medicaid LTSS spending for services provided to beneficiaries in home- and community-based settings has grown rapidly and now exceeds

spending for care provided in institutional settings, such as nursing homes. Monitoring and oversight of these services is important for ensuring quality of care, as the individuals who rely on these services are among Medicaid's most vulnerable, and while home- and community-based services can enable people to live more independently, the services are not without risk.

In the case of personal care services—an important type of long-term care service to help individuals who have limited ability to care for themselves—beneficiaries receiving these services include aged individuals and individuals with physical, developmental, or intellectual disabilities. When personal care services are provided in a private home, other providers or community members may not be present to help discourage or report questionable activities. Further, depending on the state and the personal care services program, personal care attendants who provide personal care services may not be required to have specialized training. Personal care services—for which Medicaid paid $15 billion on a fee-for-service basis in calendar year 2015—are also among the highest at risk for improper payments, including for services which were billed but never provided to the beneficiary. In 2014, CMS estimated over $2 billion of payment errors for Medicaid personal care services.[23] In 2016, we found that while CMS has taken several steps to improve oversight of personal care services, it has not collected all required state reports on beneficiaries' health and welfare for some programs, and it could do more to harmonize the patchwork of federal program requirements intended to oversee beneficiary safety and assure that billed services are provided. Such harmonization would help ensure a more consistent administration of policies and procedures and could enhance oversight.[24]

Finally, another important change in the delivery of Medicaid-funded LTSS is the rapid growth in managed care, which in 2014 accounted for almost 15 percent of Medicaid LTSS expenditures. We will continue to monitor Medicaid's use of managed care to deliver LTSS as well as other

[23]The challenges and risks associated with these and other Medicaid improper payments are discussed on page 578 of this report.

[24]The 21st Century Cures Act imposes new requirements for personal care and home health services offered under the state plan that require an in-home visit by a provider. Specifically, personal care services provided on or after January 1, 2019, and home health services provided on or after January 1, 2023, must be electronically verified with respect to service type, date, and location, among other factors. Pub. L. No. 114-255, § 12006 (2016).

aspects of the program's growing support for LTSS and examine the implications for oversight.

What Remains to Be Done

We have a number of Matters for Congressional Consideration and recommendations to HHS and CMS for addressing issues related to financing, payment oversight, demonstration spending, and access-related issues.

We have suggested Congress take the following actions:

- To improve the transparency of and accountability for certain high-risk Medicaid payments that total tens of billions of dollars annually, Congress should consider requiring CMS to improve reporting of and guidance related to certain supplemental payments and to require states to submit annual independent audits of such payments.
- To improve the fiscal integrity of Medicaid, Congress should consider requiring increased attention to fiscal responsibility in approving Section 1115 Medicaid demonstrations by requiring the Secretary of HHS to improve the demonstration review process through steps such as (1) clarifying criteria for reviewing and approving states' proposed spending limits, (2) better ensuring that valid methods are used to demonstrate budget neutrality, and (3) documenting and making public material explaining the basis for any approvals.
- To ensure that federal funding efficiently and effectively responds to the countercyclical nature of the Medicaid program, Congress should consider enacting a federal matching formula that targets variable state Medicaid needs and provides automatic, timely, and temporary increased federal assistance in response to national economic downturns.

In addition, we have made recommendations to HHS and CMS, including:

- To improve CMS's oversight of Medicaid payments, the Administrator of CMS should develop (1) a policy establishing criteria for when such payments at the provider level are economical and efficient; and (2) a process for identifying and reviewing payments to individual providers, once criteria are developed, in order to determine whether they are economical and efficient.
- To improve the transparency of the process for reviewing and approving spending limits for comprehensive section 1115

demonstrations, the Secretary of Health and Human Services should update the agency's written budget neutrality policy to reflect actual criteria and processes used to develop and approve demonstration spending limits, and ensure the policy is readily available to state Medicaid directors and others.

- To meet HHS's fiduciary responsibility of ensuring that section 1115 waivers are budget neutral, the Secretary should better ensure that valid methods are used to demonstrate budget neutrality, by developing and implementing consistent criteria for considering proposals for section 1115 demonstration waivers.
- To better understand the effect of certain personal care services on beneficiaries and more consistently administer policies and procedures across personal care services programs, the Secretary of HHS should direct the Administrator of CMS to (1) collect and analyze required state information on the impact of certain personal care services programs, and (2) take steps to further harmonize federal requirements across programs providing personal care services.
- In light of the need for accurate and complete information on children's access to health services under Medicaid and State Children's Health Insurance Program (CHIP), CMS should work with states to identify additional ways to improve reports used to monitor children's access to services, including identifying how to capture information related to whether children receive treatment services for which they are referred.

GAO Contact

For additional information about this high-risk area, contact Katherine Iritani at (202) 512-7114 or iritanik@gao.gov, or Carolyn L. Yocom at (202) 512-7114 or yocomc@gao.gov.

Related GAO Products

Medicaid Personal Care Services: CMS Could Do More to Harmonize Requirements Across Programs. GAO-17-28. Washington, D.C.: November 23, 2016.

Medicaid Fee-For-Service: State Resources Vary for Helping Beneficiaries Find Providers. GAO-16-809. Washington, D.C.: August 29, 2016.

Medicaid: Federal Guidance Needed to Address Concerns About Distribution of Supplemental Payments. GAO-16-108. Washington, D.C.: February 5, 2016.

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Medicaid: Improving Transparency and Accountability of Supplemental Payments and State Financing Methods. GAO-16-195T. Washington, D.C.: November 3, 2015.

Medicaid: Overview of Key Issues Facing the Program. GAO-15-746T. Washington, D.C.: July 8, 2015.

Medicaid: Key Issues Facing the Program. GAO-15-677. Washington, D.C.: July 30, 2015.

Medicaid Demonstrations: More Transparency and Accountability for Approved Spending Are Needed. GAO-15-715T. Washington, D.C.: June 24, 2015.

Medicaid: Service Utilization Patterns for Beneficiaries in Managed Care. GAO-15-481. Washington, D.C.: May 29, 2015.

Medicaid Demonstrations: Approval Criteria and Documentation Need to Show How Spending Furthers Medicaid Objectives. GAO-15-239. Washington, D.C.: April 13, 2015.

Medicaid: CMS Oversight of Provider Payments Is Hampered by Limited Data and Unclear Policy. GAO-15-322. Washington, D.C.: April 10, 2015.

Medicaid and CHIP: Reports for Monitoring Children's Health Care Services Need Improvements. GAO-11-293R. Washington, D.C.: April 5, 2011.

Medicaid Improper Payments

Why Area Is High Risk

The Centers for Medicare & Medicaid Services (CMS) in the Department of Health and Human Services (HHS) has taken several actions that demonstrate its commitment to reduce improper payments, including using rulemaking to strengthen state capacity and oversight of managed care organizations (MCO) and the ongoing implementation of a new claims data system that could address issues with incomplete, inaccurate, and untimely state data. Despite these efforts, however, overall Medicaid improper payments continue to increase, rising to about $36.3 billion in fiscal year 2016 compared with $29.1 billion in fiscal year 2015.

We designated Medicaid as a high-risk program in 2003 in part due to concerns about the adequacy of the fiscal oversight that is necessary to prevent inappropriate program spending. This federal and state program covered acute health care, long-term care, and other services for an estimated 72.2 million low income and medically needy individuals in fiscal year 2016, making it one of the largest sources of funding for medical and health-related services. Under current law, the program is expected to continue to grow—covering as many as 13.2 million additional individuals by 2025—as states may expand their Medicaid programs under the Patient Protection and Affordable Care Act (PPACA). As with any estimate, changes to PPACA or other laws could affect the projected federal spending on major federal health care programs and federal revenues.

By design, Medicaid allows significant flexibility for states to design and implement their programs, which has resulted in over 50 distinct state-based programs.[1] The federal government matches state expenditures for most Medicaid services using a statutory formula.[2] The federal matching

[1]Medicaid consists of 56 distinct programs, including 1 for each of the 50 states, the District of Columbia, Puerto Rico, the Commonwealth of the Northern Mariana Islands, American Samoa, Guam, and the U.S. Virgin Islands.

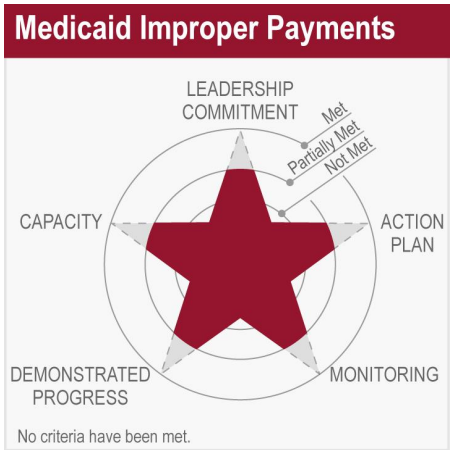
[2]The Federal Medical Assistance Percentage (FMAP) is calculated annually using the following formula: FMAP = 1.00- 0.45 (state per capita income (PCI)/U.S. PCI).² Federal law specifies that the FMAP will be no lower than 50 percent and no higher than 83 percent. See 42 U.S.C. §1396d(b).

rate varies under the program, with increased federal matching funds for individuals newly eligible through the expansion of Medicaid under PPACA. The program is a significant expenditure for the federal government and the states, with total estimated expenditures of $575.9 billion in fiscal year 2016, of which $363.4 billion was financed by the federal government and $212.5 billion by the states.

Within broad federal guidelines, states have some discretion in setting Medicaid eligibility standards and provider payment rates, and in determining the amount, scope, and duration of covered benefits and how these benefits are delivered. For example, states may pay health care providers for each service they provide on a fee-for-service (FFS) basis; contract with MCOs to provide a specific set of Medicaid-covered services to beneficiaries and pay them a set amount per beneficiary per month; or rely on a combination of both delivery systems. Roughly three-fourths of Medicaid beneficiaries receive some or all of their services from MCOs, and payments to MCOs account for over one-third of federal Medicaid spending. Increased enrollment and spending for Medicaid-managed care makes effective federal and state oversight of this large and complex component of the Medicaid program critical.

The size and diversity of the Medicaid program make it particularly vulnerable to improper payments—including payments made for people not eligible for Medicaid or made for services not actually provided. Over recent years, improper payments have increased substantially and represent a significant cost to the program, an estimated $36.3 billion in federal dollars in fiscal year 2016. While states have the first-line responsibility for preventing improper payments, CMS has an important role in overseeing and supporting state efforts to reduce and recover improper payments. This high-risk assessment focuses solely on CMS's efforts to prevent and reduce improper payments. Medicaid vulnerabilities include more than improper payments, and we discuss the broader challenges and risks associated with the Medicaid program separately (see page 520).

What GAO Found



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

As mentioned above, the continued growth in the overall estimated improper payment rate—10.5 percent in 2016 compared with 9.8 percent in 2015—underscores the need for additional federal action and has resulted in the agency partially meeting the 5 key criteria for removal from our High-Risk List: leadership commitment, capacity, action plan, monitoring, and demonstrated progress. Until additional actions are taken, gaps in oversight remain that will challenge CMS's ability to reduce improper payments.

Congress has taken action to address improper payments and oversight challenges in the Medicaid program. For example, HHS identified provider screening and enrollment as a main area contributing to increased estimates in Medicaid improper payments, and Congress recently enacted legislation requiring MCOs only use providers that have been screened and enrolled by the appropriate state Medicaid program. The legislation also requires states to report information about terminated Medicaid providers to CMS and requires CMS to include such information, as appropriate, in the agency's Medicaid provider termination notification system.[3] Additionally, Congress has held several hearings related to Medicaid improper payments, including a May 2016 hearing held by the House Energy and Commerce Subcommittee on Oversight and Investigations and an October 2015 hearing held by the Senate

[3]21st Century Cures Act, Pub. L. No. 114-255, § 5005 (2016) (to be codified at 42 U.S.C. § 1396c(kk)(8)).

Committee on Finance. Further indicating a continued focus on agency action on Medicaid program integrity, the chairmen of two congressional committees and subcommittees sent letters to CMS regarding Medicaid program integrity, including a letter on eligibility determinations and one on how CMS sets its target improper payment rate for the Medicaid program.

What Remains to Be Done

CMS has taken steps to improve the improper payment rate in recent years, including implementing certain recommendations we previously made and using rulemaking to strengthen program integrity efforts. Several of these efforts are in progress, with staggered compliance dates for changes to oversight of MCOs and continued state implementation of the Transformed Medicaid Statistical Information System (T-MSIS). For example, the requirement in the May 2016 managed care rule for states to audit the accuracy, truthfulness, and completeness of the financial data submitted by MCOs will not take effect until July 2017. Additionally, T-MSIS, which aims to collect more complete and timely state data, including claims and utilization data, is not fully implemented across all states. Continued oversight and leadership will be necessary in these areas.

Further, there are several areas where CMS needs to take action to address issues and recommendations that have not been fully implemented, including:

- considering which additional databases that states and Medicaid managed care plans use to screen providers, which could be helpful in improving the effectiveness of these efforts, and determining whether any of these databases should be added to the list of databases identified by CMS for screening purposes;
- developing a plan to regularly assess the effectiveness of checks for duplicate coverage between Medicaid and federally facilitated exchanges, including thresholds for the level of duplicate coverage it deems acceptable;
- continuing its efforts to work with Social Security Administration to share its Death Master File with states and providing additional guidance to states to better identify beneficiaries who are deceased; and

- conducting systematic assessments of federal determinations of Medicaid eligibility in states that delegated this authority to the federal marketplace until it is part of the regular review processes that are expected to resume in 2018.

Fully addressing these recommendations would help CMS address the growing levels of improper payments. Until CMS takes additional actions to address these and other gaps in oversight, the Medicaid program remains at risk for unacceptable levels of improper payments and therefore remains on our High-Risk List.

Additional Details on What GAO Found

Leadership Commitment

CMS continues to partially meet the criteria for leadership commitment to reducing improper payments; however, questions remain about the success of its efforts. Since 2014, the agency has reorganized its program integrity activities with the aim of creating more streamlined operations; established an agency-wide Program Integrity Board to identify and set priorities for addressing vulnerabilities in its programs; and taken steps to improve coordination activities with Medicare. CMS also published a final rule on Medicaid managed care in May 2016 that is intended to improve oversight of MCOs. The rule is responsive to our priority recommendations that CMS should hold states accountable for Medicaid MCO program integrity by requiring states to audit payments to and by MCOs, and updating its guidance on Medicaid managed care program integrity practices and effective handling of MCO recoveries. As 1 example, the rule requires that states, at least once every 3 years, audit the data submitted by MCOs with contracts starting on or after July 1, 2017.[4] Prior to issuance of this rule, there had been no requirement for states to audit payments to and by MCOs. However, given that CMS only recently reorganized its program integrity activities, and issued the new rule, and that the rule's provisions will be implemented in staggered time frames that extend to 2018, the effects on program integrity efforts are unclear.

Further, additional leadership is needed to address remaining weaknesses in federal oversight, including ensuring complete, accurate, and timely data to support oversight and program integrity efforts. CMS is

[4]81 Fed. Reg. 27498 (May 6, 2016); 42 C.F.R. § 438.602(e) (2016).

continuing its national effort to implement the T-MSIS. However, implementation has been delayed for several years, and it remains unclear when data will be available from all states or how CMS will use these data for oversight purposes.

Capacity

CMS continues to partially meet the criteria for capacity. The agency has taken actions to enhance the resources and guidance available to states for program integrity purposes. For example, CMS issued a final rule in December 2015 that permanently extends the availability of a 90 percent federal match for states' expenditures related to enhancing or replacing their Medicaid eligibility and enrollment information technology (IT) systems, and aims, in part, to enhance states' program reporting and management tools to support program integrity efforts.[5] In addition, the May 2016 managed care rule includes provisions to strengthen data available on managed care utilization and imposes financial consequences on states that do not submit MCO utilization data. For example, state contracts with MCOs must provide for the collection and maintenance of sufficient data on managed care service utilization, also known as encounter data, and states must have procedures to ensure that these required enrollee encounter data are complete and accurate.[6] However, these provisions do not take effect until July 2017 or 2018, so their success in improving data available for program integrity is unknown and will depend on how states and CMS implement them.

In response to our 2015 priority recommendation to support state third-party liability efforts, CMS produced an updated guide to compile and share effective and innovative Medicaid third-party liability practices reported by states, an important tool that could help states ensure that Medicaid pays only after other liable third parties. In response to our priority recommendation to provide guidance to states on their oversight of third-party liability efforts conducted by Medicaid managed care plans, CMS subsequently published a handbook, which provides guidance to states on third party liability efforts, including such efforts conducted by

[5]80 Fed. Reg. 75817 (Dec. 4, 2015). The rule also allows CMS to reduce the federal match from 75 percent to 50 percent for states' costs associated with ongoing maintenance and operation for these systems for states that do not meet the system standards. 42 C.F.R. § 433.119(c) (2016).

[6]42 C.F.R. § 438.242 (2016). Under the rule, CMS may take steps to defer federal financial participation (FFP), disallow FFP, or defer and disallow FFP on all or part of an MCO's contract based on the non-compliant data. 42 C.F.R. § 438.818(c) (2016).

Medicaid MCOs. Finally, our recent work has also identified limitations in program integrity efforts in Puerto Rico and other U.S. territories that put Medicaid funding in these areas at risk for fraud, waste, and abuse, and underscore the need for CMS to develop a cost-effective approach to protecting Medicaid funding in these territories.

Action Plan

CMS has documented a strategic approach to reducing improper Medicaid payments, but only partially meets the criteria due to a missing report the agency is legally required to provide to Congress. In July 2014, CMS issued the Comprehensive Medicaid Integrity Plan for fiscal years 2014 through 2018, in which CMS established goals to expand its capacity to protect the program's integrity and manage risk in administering federal grants to states. The agency is required to report to Congress annually on the use and effectiveness of funds appropriated for the Medicaid Integrity Program. The agency reported for fiscal years 2013 and 2014 in July 2016, well after the required timeframes, and the agency is out of compliance with the requirement for fiscal year 2015 because it has not submitted a report for fiscal year 2015, as of December 2016.

With regard to specific actions, CMS has taken steps to identify duplicate coverage for individuals transitioning from Medicaid to federally facilitated exchanges created under PPACA, and had performed three checks as of October 2016. In response to our priority recommendation that CMS establish a schedule for regular checks for duplicate coverage, CMS reported that it intends to check for duplicate coverage at least two times per coverage year going forward. CMS also reported that it was reviewing these data to assess whether the checks were effective. However, the agency has not developed a plan, including thresholds for the level of duplicate coverage it deems acceptable, to routinely monitor the effectiveness of these checks.

Monitoring

CMS continues to partially meet the criteria for monitoring. CMS has enhanced its oversight of states' program integrity activities, particularly by increasing its focus on collaborative audits and working with states to improve compliance with PPACA's provider screening requirements. In focusing on collaborative audits, CMS has engaged more states than before, targeted federal audit resources to state needs, and identified an increasing amount of overpayments. In addition, CMS now provides

states with federal data to strengthen Medicaid provider enrollment screening and has provided guidance and technical assistance to assist states on their revalidation efforts. CMS also recently provided additional guidance to states on specific provider screening and reporting provisions included in the 21st Century Cures Act. Our prior work has shown that available federal data do not include all of the information necessary for states to effectively and efficiently process Medicaid provider applications. Due to this issue and other challenges, we found that states and managed care plans rely on fragmented information from multiple and disparate databases to screen managed care providers, and often struggle to access and use these databases because of difficulties conducting provider matches across databases.

CMS also needs to take additional steps to better monitor states' beneficiary eligibility determinations. Specifically, we found that CMS is not always able to assess the accuracy of federal Medicaid eligibility determinations, which is particularly problematic where states delegate this determination authority to the federal government through federally facilitated exchanges. While CMS is relying upon operational controls within the federal marketplaces to ensure accurate eligibility determinations, without a systematic review of these determinations, the agency lacks a mechanism to ensure that only eligible individuals are enrolled in the program and to identify associated improper payments until CMS's updated eligibility review program resumes in 2018.

Demonstrated Progress

CMS continues to partially meet the criteria for demonstrated progress. The agency has taken actions to improve federal and state oversight of Medicaid MCOs, to extend funding to help states modernize their eligibility systems, and to help states come into compliance with recent legislation by providing updated guidance. Nonetheless, additional actions are warranted to identify and reduce improper payments, given the rise in the Medicaid improper payment rate and expected growth of the Medicaid program.

Several factors will complicate CMS efforts to identify improper payments. Specifically, CMS's improper payment rate estimates may be inaccurate because the agency has frozen a component used to calculate improper

payments based on beneficiary eligibility through fiscal year 2018.[7] Additionally, CMS estimates of improper payments to MCOs do not consider underlying medical data such as the use of medically unnecessary services and other contributing factors. Finally, CMS will not fully implement certain provisions to strengthen program integrity in Medicaid managed care—such as requiring MCOs to only use providers that have been screened and enrolled by the appropriate state Medicaid program—until January 2018. Thus, it is critical that CMS take other actions to ensure that only providers in good standing participate in the program during this interim period.

Benefits Achieved by Implementing Our Recommendations

- CMS is conducting collaborative audits with states, which allows the states to augment their own program integrity audit capacity by leveraging the resources of CMS and its audit contractors. These efforts have increased the amount of identified Medicaid overpayments.[8]
- CMS provided training to states through the Medicaid Integrity Institute on correct reporting of program integrity recoveries. Efforts to ensure correct reporting of recoveries will make it easier for CMS to determine whether states are returning the federal share of recovered overpayments.
- CMS posted guidance on its website regarding the requirements that must be met in order for Medicaid administrative expenditures to be eligible for federal matching funds. A CMS official said that the agency ensures that the policies are applied consistently across all states

[7]HHS is updating the eligibility component measurement methodology to reflect changes in the way states adjudicate eligibility for Medicaid and the State Children's Health Insurance Program under PPACA. For fiscal years 2015 through 2018, HHS will not conduct the eligibility measurement component of Payment Error Rate Measurement program, but will hold the eligibility component's error rate constant at the fiscal year 2014 reported rate of 3.11 percent. See HHS, *FY 2016 Agency Financial Report*, (Washington, D.C.: November 2016).

[8]As the entities responsible for collecting overpayments, states reported combined audit recoveries of $4.7 million from this program and returned the federal share of $2.9 million to the Treasury in fiscal year 2013. In fiscal year 2014, states reported combined audit recoveries of $11.5 million from this program and returned the federal share of $7.8 million to the Treasury.

through internal training. These efforts should improve CMS's financial management of Medicaid administrative claiming activities.

- CMS reconfigured the National Medicaid Audit Program to eliminate the review contractor function altogether in response to concerns that the federal review was duplicative of actions undertaken by audit contractors within a state or geographic area. By eliminating duplication in the review function, CMS will realize greater efficiencies in its audits and reduce state burden.

GAO Contact

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Related GAO Products

Medicaid: Program Oversight Hampered by Data Challenges, Underscoring Need for Continued Improvements. GAO-17-173. Washington, D.C.: January 6, 2017.

Medicaid Program Integrity: Improved Guidance Needed to Better Support Efforts to Screen Managed Care Providers. GAO-16-402. Washington, D.C.: April 22, 2016.

Medicaid and CHIP: Increased Funding in U.S. Territories Merits Improved Program Integrity Efforts. GAO-16-324. Washington, D.C.: April 8, 2016.

Nonemergency Medical Transportation: Updated Medicaid Guidance Could Help States. GAO-16-238. Washington, D.C.: February 2, 2016.

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Medicaid: Key Issues Facing the Program. GAO-15-677. Washington, D.C.: July 30, 2015.

Medicaid: Additional Actions Needed to Help Improve Provider and Beneficiary Fraud Controls. GAO-15-313. Washington, D.C: May 14, 2015.

Medicaid: Additional Federal Action Needed to Further Improve Third-Party Liability Efforts. GAO-15-208. Washington, D.C.: January 28, 2015.

Improving and Modernizing Federal Disability Programs

Why Area Is High Risk

An estimated one in six working-age Americans reported that they had a disability in 2010; many of them may require assistance finding or retaining employment, or rely on cash benefits if they cannot work.[1] Nevertheless, disability programs across the federal government face significant challenges in addressing the needs of Americans with disabilities. In particular, 3 of the largest federal disability programs—2 managed by the Social Security Administration (SSA) and 1 by the Department of Veterans Affairs (VA), which together dispensed about $256 billion in cash benefits to over 20 million people in fiscal year 2015—are grappling with large workloads and have struggled to make timely decisions on who is eligible for cash benefits.[2] These issues are most evident when individuals appeal their decisions, as the number of pending appeals increased 30 and 34 percent respectively at SSA and VA when comparing fiscal years 2012 and 2015. Workloads for these agencies are likely to remain a challenge as the population ages and large numbers of servicemembers are expected to transition out of the military in the next several years. In addition, SSA and VA rely on

[1]We define this measure of disability to include non-institutionalized individuals aged 21 to 64, and is based on annual U.S. Census Bureau Survey of Income and Program Participation (SIPP) data from 2010. We selected SIPP data over other available data sources because the SIPP included additional questions regarding the effect of health conditions on, for example, the respondents' ability to work. The percent of non-institutionalized individuals of any age—or age 15 and older—with a disability is even higher. See Brault, Matthew W. "Americans With Disabilities: 2010," *Household Economic Studies* (Washington, D.C.: U.S. Census Bureau, July 2012) accessed on January 7, 2017, https://www.census.gov/content/dam/Census/library/publications/2012/demo/p70-131.pdf.

[2]Comparing fiscal years 2011 and 2015, the amount of cash benefits paid by SSA's Disability Insurance and Supplemental Security Income programs has grown from $178 billion to $196 billion; and by VA from $39 billion to $60 billion. Benefits paid under these programs are expected to continue growing for the foreseeable future. In particular, SSA's Disability Insurance Trust Fund is projected to deplete its assets in 2023 according to the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds. This is due in part to a growing population of beneficiaries. After 2023, revenues in the Disability Insurance Trust Fund are projected to only be sufficient to pay 89 percent of Disability Insurance scheduled benefits.

outdated criteria to determine whether individuals qualify for benefits. While these agencies reported efforts underway to update their rules, they continue to emphasize individuals' medical conditions without sufficiently considering whether they could work because of improvements in workplace accommodations and assistive technologies. In addition to these 3 cash assistance programs, we found that there are 45 programs managed by 9 different federal agencies that provide a patchwork of employment supports to people with disabilities. Although programs that support employment can divert individuals from the disability rolls, these programs lack a unified vision, strategy, or set of goals to guide their outcomes. We first designated improving and modernizing federal disability programs as high risk in 2003.

What GAO Found

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

The federal government's progress in improving and modernizing disability programs remains mixed. We assessed progress across five broad areas: two reflecting SSA's and VA's actions to manage their disability claims workloads; two reflecting SSA's and VA's progress to modernize their criteria for deciding who is eligible for disability benefits; and, lastly, the Office of Management and Budget's (OMB) efforts to create unified strategies and goals for programs that support employment for people with disabilities. Some of the agencies we assessed met certain criteria while others did not, and when combined, the resulting summary rating shows that the five criteria were partially met. SSA and VA have continued to make progress managing their claims workloads,

but both agencies currently face challenges managing their appeals backlogs. SSA and VA also have made progress updating the criteria they use to determine eligibility for disability benefits, especially with respect to developing action plans. In terms of plans to mitigate the potential effects of program fragmentation, OMB—which performs a management role for the executive branch—has made some progress developing plans to test interventions that may improve employment outcomes in the private as well as public sector, but has not yet developed a unified vision, or government-wide goals and related strategies for improving employment outcomes outside of the federal sector.

With respect to SSA updating the criteria it uses to determine eligibility for benefits, more needs to be done to address this high-risk issue, but in response to our 2012 recommendation, SSA took action that resulted in cost savings. Specifically, SSA replaced its earlier, highly ambitious plans to develop its own occupational information system (OIS) (to house occupational data used to make disability determinations) with a potentially more cost-effective approach that uses existing expertise and resources in the federal government. In doing so, SSA partnered with the Bureau of Labor Statistics (BLS) to collect and update occupational information by surveying employers. As a result of SSA implementing our recommendation, we determined that, as of 2015, SSA saved approximately $27 million dollars.

What Remains to Be Done

- **Managing SSA Disability Claims Workloads**: SSA should implement our past recommendation to prepare for wide-ranging management challenges by continuing to move forward with operationalizing its Vision 2025—a long-term strategic plan—to ensure that the agency is well positioned to serve its customers in the future. In addition to carefully planning and implementing systems support for initial claims, SSA should continue to implement and monitor the success of its plans for addressing the growing appeals workload and improving appeals decision timeliness.
- **Managing VA Disability Claims Workloads:** Predicting growth in both disability compensation claims and appeals, VA should maintain focus on (1) managing its workloads at both levels; (2) ensuring that it has detailed plans in place for creating capacity and reforming its appeals process; and (3) collecting and reporting appropriate data and metrics to fully understand factors influencing timeliness under

both its legacy and proposed appeals process, and transparently reporting progress.

- **Updating SSA Disability Benefit Eligibility Criteria:** As part of its effort, SSA tasked the Health and Medicine Division (HMD) of the National Academies of Sciences, Engineering, and Medicine, under an existing contract, to further study the issue of how assistive technologies and workplace accommodations can affect disability determination decisions Once the study is complete in July 2017, SSA should determine if and how it can incorporate the findings into its disability decision-making process, consistent with our past recommendation. We will consider removing the area of updating SSA's disability benefit criteria from the High-Risk List once the study is complete and SSA determines a course of action. In the meantime, we will continue to monitor SSA's progress finalizing medical criteria and developing its OIS.
- **Updating VA Disability Benefit Eligibility Criteria:** VA made steady progress updating its disability criteria. However, given that only a third of the initial round of updates are complete and the remainder were delayed, VA should maintain leadership focus and continue monitoring its progress against its project plans to ensure that sufficient resources are dedicated to this effort and that its plans to subsequently revisit its criteria at least once every 10 years thereafter continue to be realistic.
- **Ensuring Programs Have Unified Strategies and Goals:** Efforts by the previous administration and OMB to improve coordination across federal programs were positive, but also limited in scope or lack funding. For example, the administration proposed an interagency council to run early intervention demonstration programs, which has the potential to uncover approaches worth pursuing at a national level. However, to date, the proposed council to achieve that vision has not been funded. Further, while common measures recently implemented will help assess the relative success of specific programs across agencies, the prior administration did not develop goals or strategies for measuring and tracking the cumulative effect of disparate programs on employment outcomes beyond the federal sector—which could also help inform and target the types of interventions to be piloted by the new administration.

Additional Details on What GAO Found

Managing Disability Claims Workload (SSA)

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

Since our 2015 update, SSA has demonstrated mixed progress in addressing its workload challenges, such that partially met ratings did not change from 2015. Specifically, SSA made progress reducing its backlog of initial disability claims, while its appeals workload continued to grow.

Leadership Commitment

Since our 2015 high-risk report, SSA has continued to meet our leadership criterion. As described below, SSA officials told us that they continued to develop plans to implement its Vision 2025—a long-term strategic plan that articulates how SSA will serve its customers in the future. SSA also designated reducing wait times for hearings decisions as a priority goal for fiscal years 2016 and 2017.

Capacity

SSA continued to partially meet our criterion for building capacity. With respect to ensuring sufficient capacity at the initial claims level, while SSA has reduced the number of pending initial claims each year since 2010, efforts to further reduce costs and process claims more efficiently using

technology were stalled. Specifically, SSA halted development of its Disability Case Processing System (DCPS), after a consulting firm contracted by SSA reported the agency spent about $288 million with few results. Subsequently, SSA selected a new development path for the DCPS, and officials still expect that DCPS will improve workflows and reduce administrative costs; however, SSA's Office of Inspector General found that SSA did not evaluate all alternatives or consider all costs required to maintain a new system before pursuing a DCPS alternative. SSA officials reported in October 2016 that the agency was developing an initial product to deliver to three test sites focused on processing certain fast-track claims.[3] To address its priority goal of reducing the time for hearing decisions, officials reported that SSA increased the number of administrative law judges (ALJ) who decide appeals cases by 349 in fiscal years 2015 and 2016—about a 24 percent increase. In its plan to address its appeals backlog, SSA noted that it is exploring ways to improve ALJ hiring in difficult-to-staff locales, leverage SSA's Office of Quality Review to obtain assistance with critical case processing activities, and use judges from the Appeals Council to hold hearings on some cases. However, SSA officials noted in October 2016 that plans to increase hiring and leverage other resources are on hold due to a hiring freeze expected to extend into fiscal year 2017.

Action Plan

SSA still partially met our criterion for action plans. Notably, the agency published a plan in January 2016 to address its appeals backlog that calls for:

- hiring an additional 250 ALJs each year through fiscal year 2018, which the agency projected is needed to reduce average appeals wait times for hearing decisions to its goal of 270 days by the end of fiscal year 2020;
- improving business processes, including increasing the number of prehearing conferences to better prepare unrepresented claimants for their hearings, and sharing resources across the agency to help process appeals at backlogged hearing offices; and

[3]Specifically, claims under the Quick Disability Determination and Compassionate Allowances processes. These processes are intended to quickly render decisions for claimants whose medical conditions are serious enough to clearly meet SSA's disability criteria.

- improving the use of information technology (IT), such as expanding the use of video hearings, providing online records access to medical and vocational experts, and reducing the use of physical paperwork at hearings-level cases.

While this plan is a positive step, the extent to which proposed actions will reduce the hearings backlog remains to be seen. In September 2016, SSA's OIG reported that more than half of the initiatives in the agency's plan duplicated past backlog initiatives, including a 2007 plan that did not result in long-term reductions of the backlog. Additionally, SSA notes in its plan that some efforts, such as increased hiring, will depend on the agency receiving additional funding. Regarding SSA's broader Vision 2025 effort, officials told us that SSA is still in the process of developing plans to implement it. Among other things, Vision 2025 touches on the agency's capacity to process initial claims and appeals. SSA officials told us that SSA is integrating aspects of Vision 2025 into its fiscal year 2018-2022 strategic plan—scheduled to be issued in January 2018—and conducting working sessions with a cross-section of SSA employees to gather input about how to realize Vision 2025 priorities.

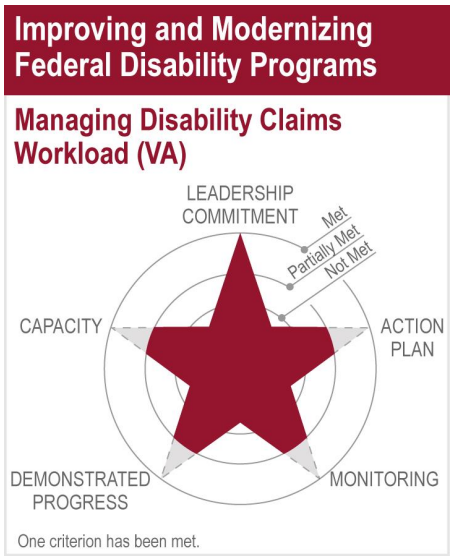
Monitoring

SSA continued to meet our criterion for monitoring by continuing to monitor and report on the timeliness of its initial claims and appeals workloads.

Demonstrated Progress

SSA partially met our criterion, demonstrating mixed progress. In addressing its initial claims backlogs, SSA continued to reduce the number of pending claims in each fiscal year since 2010—from about 842,000 in fiscal year 2010 to 621,000 in fiscal year 2015. However, the timeliness of its appeals workload worsened. The number of hearings pending as of the end of 2016 was over 1.1 million and the average time needed to complete appeals increased from 353 days in fiscal year 2012 to 545 days in fiscal year 2016. SSA's goal is to eventually reduce this time to 270 days, as articulated in its appeals reform plan.

Managing Disability Claims Workload (VA)



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

Since our 2015 high-risk update, VA has demonstrated mixed progress in addressing its workload challenges. Progress is evident in regards to VA's efforts to reduce the Veterans Benefit Administration's (VBA) compensation claims backlog. However, VA's appeals workload continued to grow, and several efforts to address this challenge are still underway. In particular, VA's proposed framework to reform the appeals process—developed by VBA and the Board of Veterans' Appeals (Board)—requires legislative authority to pursue. We have ongoing work related to VA's efforts to address appeals workloads and timeliness that we plan to issue in the first quarter of 2017.

Leadership Commitment

VA continued to meet our criterion for leadership commitment. Since 2015, VA tracked progress toward eliminating the disability compensation claims backlog, an agency priority goal set for fiscal years 2014 and 2015. It also renewed its commitment to reducing appeals inventories and improving timeliness of appeals decisions by updating its appeals strategic plan in 2016, making development of a simplified appeals process 1 of VA's 12 breakthrough priorities for 2016, and working closely with veterans service organizations (VSO) and other stakeholders to

propose a new framework and associated legislation to reform the current appeals process.

Capacity

VA partially met this criterion. Since 2015, officials told us that VA has taken steps to build capacity to process compensation claims, such as:

- implementing, in 2015, a centralized mail program that will consolidate paper mail from the regional offices to a centralized intake site, where all documents received are scanned into an electronic format;
- adding capabilities to its online benefits management system, such as integration with Department of Defense systems, electronic access for veterans, and an automated mechanism that flags a claim when new evidence is received. VA states that these automation capabilities will increase the efficiency of compensation claims processing; and
- implementing a national work queue distribution tool at all regional offices that should allow VA to electronically distribute claims across regional offices to even out workloads.

According to VA, these efforts have resulted, to date, in reducing the compensation claims backlog by 88 percent from a peak of 611,073 claims in March 2013 to a low of 71,690 as of September 30, 2016. Further, VA reported that it increased compensation claim productivity per full-time equivalent (FTE) by 25 percent since 2011. However, it remains to be seen if VA can maintain these gains as workloads are projected to increase in the future.

At the appellate level, VA proposed a streamlined appeals framework through which it hopes to gain efficiencies; however this new framework—which is still in the planning stages—requires legislative authority to implement. VA is developing and implementing technology improvements that could result in enhanced productivity, such as a new appeals processing system that would better support a paperless process. VA also added 300 FTEs at VBA to help process appeals in fiscal years 2015 and 2016, and according to agency officials, VA received a 42 percent increase in funding for the Board in fiscal year 2017 that will support the hiring of additional FTEs. VA plans further improvements related to capacity, such as increasing human resources and training support, and is developing a recruitment plan with the Office of Personnel Management (OPM) to hire additional staff, primarily in the attorney role. However, these staffing increases and technology improvements were underway as of January 2017, and it is too early to

determine the extent to which the sum of these efforts will improve VA's capacity to process appeals.

Action Plan

VA partially met our criterion for action plans. As previously mentioned, officials noted that VA has taken steps since 2015 to increase its capacity to reduce VBA's compensation claims backlog. VA also has developed plans to reduce appeals inventories and improve the timeliness of appellate decisions. In 2016, VA published a strategic plan for addressing the appeals process, which lays out the need to hire additional staff and improve IT supports in order to improve productivity. VA also worked with stakeholders, such as VSOs and congressional committees, to develop a reform proposal to streamline the appeals process. The proposed streamlined appeals process will provide new options for timely review of prior VA decisions, which VA expects to result in efficiencies while providing veterans with a more simple, timely, transparent, and fair appeals process. While potentially promising, as of October 2016, VA was still developing implementation plans and did not have legislative authority to pursue its proposed reforms. Regarding staffing, VA officials reported in March 2016 that they were working with OPM on a strategic recruitment plan, but had not finalized this plan.

Monitoring

VA partially met our criterion for monitoring. VA continued to have clear goals for processing compensation claims and a system for monitoring them on a regular basis; however, gaps exist in VA's ability to measure performance and proposed process changes related to appeals. In fiscal year 2015, VA developed new measures to publicly report appeals processing performance in its Annual Performance Reports, which VA officials said focus on the discrete steps in the appeals process and help show where bottlenecks exist. However, VA no longer publicly reports the total average amount of time needed across VBA and the Board to resolve an appeal. As we noted in our 2015 update, not reporting broad measures—such as the average time needed to resolve appeals across VA—reduces the transparency of VA's progress. Additionally, VA currently lacks data that could help it more fully understand factors currently affecting appeals decision timeliness, such as data on the number of actions taken on cases or the number of times claims were re-reviewed because new evidence was submitted. To help address this, VA officials told us that they are developing a data dashboard as a part of IT

improvements, but it is too early to tell how the agency will use the dashboard to evaluate proposed improvements to the appeals process.

Demonstrated Progress

VA partially met our criterion for demonstrating progress. VA continued to make progress with reducing its compensation claims backlog. Specifically, VA decreased the total inventory of compensation claims by 57 percent from a peak of 883,930 in fiscal year 2012 to 377,107 in fiscal year 2016. Additionally, VA has improved its claim processing timeliness by reducing the average length of time a claim is pending from an average of 282 days in fiscal year 2013 to 85 days in fiscal year 2016.

At the appellate level, VA officials told us that they resolved more than 138,608 appeals in fiscal year 2016, an increase of 25 percent compared to fiscal year 2013. However, the volume of appealed claims and number of days required to decide appealed claims increased recently. According to VA officials, the total appeals inventory grew approximately 33 percent from about 350,000 in fiscal year 2013 to about 464,000 in fiscal year 2016. Further, the average processing time for all appeals—that is, those resolved either by VBA or the Board—grew from 903 days in fiscal year 2012 to 936 days in fiscal year 2015. Appeals that were decided by the Board in fiscal year 2015 required an average of 1,789 days for a decision, compared to an average of 1,691 days in fiscal year 2012.

Updating Disability Benefit Eligibility Criteria (SSA)

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

Since 2015, SSA has continued to make progress on several fronts to update the criteria that it uses to determine eligibility for disability benefits. SSA's progress is evident across the five high-risk criteria, especially with respect to capacity and action plans, which improved from partially met to met. However, SSA has not yet finished reviewing all medical listings, and is still developing and testing its approach for updating occupational information that is also used to determine eligibility. It is also unclear how SSA will consider incorporating the results of a study on accommodations in the workplace into its decision-making process.

Leadership Commitment

SSA continued to meet our criterion for leadership commitment, by maintaining focus and ensuring progress toward updating the medical criteria and occupational information used to determine eligibility for disability benefits, as well as by agreeing to study the role of assistive technologies and workplace accommodations in mitigating impairments, and how this might be considered in its disability decision making.

Capacity

SSA has met the criterion for capacity, improving from partially met in 2015. Consistent with our recommendation in past work, SSA continued to work with BLS to develop an OIS to replace its outdated Dictionary of Occupational Titles, which SSA relies on in making disability determination decisions. In 2016, SSA and BLS completed the first of 3 years of production data, as well as a study, which SSA officials said found that the occupational data it is collecting will remain current for 5 to 10 years. Based on actual costs from 1 year of production data, and assuming a 5-year update cycle, SSA estimated that the life-cycle cost of the first update of occupational data (due to be completed in 2024) will be $178 million. We found SSA's cost estimate to contain sufficient analysis and information to support its scaled-back and more feasible approach for developing an OIS. Thus, SSA met the intention of our prior recommendation that it develop life-cycle cost estimates for the project in accordance with best practices, which may help SSA make program decisions and ensure sufficient resources are allocated to the effort. With respect to our prior recommendation to consider the roles of assistive technologies and workplace accommodations in disability decision making, SSA built capacity by tasking the Health and Medicine Division (HMD) of the National Academies of Sciences, Engineering, and Medicine under a contract to study this issue. Its final report is due in July 2017.

Action Plan

SSA has also met our criterion for developing action plans, improving from partially met in 2015. As we noted earlier, SSA has plans in place for updating its medical criteria, and it continued to make progress towards its goals. With respect to updating its OIS, SSA has developed a project plan for developing the OIS, and recently provided a life-cycle cost estimate as noted earlier. Lastly, SSA tasked HMD under a contract to further study the issue of how assistive technologies and workplace accommodations can affect disability determination decisions, with a proposed completion date of July 2017.

Monitoring

SSA continued to meet the criterion of monitoring progress toward updating its medical criteria, and has project plans and schedules against which to monitor its progress toward developing a new OIS to replace its outdated Dictionary of Occupational Titles.

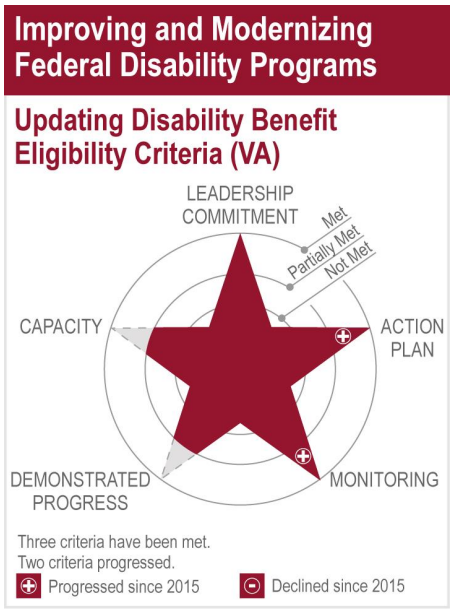
Demonstrated Progress

SSA partially met our criterion for demonstrating progress. With respect to updating its medical listings, SSA officials reported that, as of October 2016, the agency had published final rules for 13 of the 14 body systems for adults, and drafted a proposed rule for the remaining system. SSA expects to publish that final rule in 2017 once OMB under the new administration has reviewed it. Officials stated they are on track to revisit the 14 body systems every 3 to 5 years once the first round of comprehensive updates is complete. SSA officials also reported steady progress updating its occupational information.

- In 2016, SSA and BLS completed the first year of its 3-year cycle of collecting survey data for the OIS, which followed its completion of a large-scale, preproduction test involving collecting occupational information from about 2,500 employers.
- In May 2016, SSA officials also reported that they are working with a contractor to develop a Web-based system to house its occupational data, which they expect to complete in fiscal year 2017.

With respect to assistive technologies and workplace accommodations, officials reported progress under SSA's contract with HMD to study workplace accommodations and assistive technologies. Officials reported that HMD held public forums in July and September 2016 and invited experts to present information on various aspects of workplace accommodations and assistive technologies, which HMD plans to incorporate into its report findings. SSA expects HMD to conclude its study by July 2017, but it remains to be seen whether and how SSA will consider the results of the study in its decision-making process.

Updating Disability Benefit & Eligibility Criteria (VA)



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

VA continued to make progress toward updating the medical criteria that it uses to determine eligibility for disability compensation, and has now improved to met for action plan and monitoring. However, VA has experienced delays, and officials told us that VA will not meet its prior target for completing this effort by March 2017.

Leadership Commitment

VA met our criterion for leadership commitment. As noted in sections below, VA leadership continued to dedicate attention and resources to completing an initial revision of its medical criteria and developing plans to keep them updated.

Capacity

VA partially met our criterion for capacity. Since 2015, VA has taken steps to ensure it has the capacity to revise and maintain its medical criteria, and officials told us that VA has drafted or is in the process of drafting revised regulations for 14 of the 15 body systems. However, VA will not meet its target date for completing a final review and revision of all body systems by March 2017. Specifically, officials told us that VA:

- finished impact analyses—studies of how revisions will affect veterans' disability ratings—for 10 of 15 body systems and extended timelines for completing analyses for the remaining body systems to the end of calendar year 2017;
- promulgated proposed regulations for 5 of 15 body systems with plans to finalize 4 of those 5 by its original target date of March 2017, and extended its target dates for finalizing new rules for all body systems until the end of fiscal year 2018; and
- plans to assemble cross-functional teams to identify what changes VA will need to make to its policies, procedures, communications, training, and computer systems to implement the regulations, which VA officials said is in accordance with the agency's standard process for implementing new and revised regulations.

In addition, officials told us that VA lacks the necessary internal resources or expertise to conduct earnings loss studies, which take into account how advances in medical treatments and assistive technologies might be used to reduce functional loss due to disability. As such, VA requested funding for a new earnings loss study to begin in 2017. If funding is not provided, VA officials noted that they will use any available information to meet VA's goal of reviewing and revising its medical criteria on a staggered 5-year cycle. We will continue to monitor VA's efforts toward making fact-based and timely revisions to the VA ratings schedule, and ultimately implement these revisions in its decision making process.

Action Plan

VA has now met our criterion for action plans, up from partially met in 2015. VA made noteworthy progress in accordance to its original project plan, as noted above, and updated timeframes in its plan in response to delays. VA officials currently expect to promulgate final rules for all body systems by the end of fiscal year 2018. Moreover, officials also told us that VA is on track to achieve its plans to keep criteria current once initial updates are complete by placing each of the 15 body systems into a 5-year cycle of staggered reviews, and intends to document work plans and maintain working groups for each system to ensure that medical advancements and new research are incorporated as necessary.

Monitoring

VA met our criterion for monitoring, up from partially met in 2015. Since August 2013, VA has tracked its progress against its project plan for finishing its first round of updates of medical criteria, completing earning

loss studies, and ensuring all body systems are updated once every 10 years. In doing so, it has also updated its project plan to include new timeframes for completing its first round of updates in response to delays described below.

Demonstrated Progress

VA partially met our criterion for demonstrated progress. Since 2015, VA has continued to make progress updating its medical criteria, but, as previously mentioned, VA will not meet its target to review and revise regulations for all body systems by March 2017. Specifically, it is not on target to promulgate regulations for 11 of the 15 body systems it is updating, and now expects to promulgate proposed regulations for the 11 systems by the end of fiscal year 2017, and final regulations by the end of fiscal year 2018. Officials also reported progress in completing impact analyses; as of August 2016, VA had completed analyses for 10 of the 15 body systems. VA extended timeframes for the 5 remaining analyses to be completed by the end of 2017, prior to the new target date for promulgating final regulations. We will continue to monitor VA's progress toward finalizing regulations for all body systems, and, as referenced earlier, how it will keep earnings loss information updated.

Programs with Unified Strategies and Goals (OMB)

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

Since our 2015 update, OMB has made some progress towards enhancing coordination and capacity across programs that support employment for people with disabilities. Some progress is evident in all five high-risk criteria. However, the scope of its current efforts to improve employment outcomes and coordination is limited to federal agencies and contractors, and OMB has not yet articulated a broader vision for supporting employment for people with disabilities outside the federal sector that includes appropriate government-wide goals and strategies for achieving them.

Leadership Commitment

OMB continued to partially meet our criterion for leadership commitment. To better coordinate disability employment efforts across the federal government, the previous administration proposed establishing the Interagency Coordinating Council on Workforce Attachment (the Council). As planned, the Council would help support and fund early intervention[4] demonstrations that promote workforce attachment in all employment sectors. The administration sought funding for the Council in its 2017 budget request. In addition, the previous administration made progress in existing areas that support employment of people with disabilities in the federal sector. For example, it issued a resource guide as part of its Curb Cuts to the Middle Class initiative[5] and OMB officials noted that the Department of Labor (Labor) entered into a contract to track progress toward the prior administration's goal of government contractors further employing people with disabilities. While these efforts are potentially promising, they continue to fall short of developing government-wide strategies and measurable goals to help people with disabilities attain employment in both the public and private sectors. Finally, OMB officials told us that they are preparing transition plans to help ensure current efforts continue under the new administration, but it remains to be seen whether the administration will support and sustain these efforts.

Capacity

OMB continued to partially meet our criterion for building capacity. In addition to proposing the creation of the Council and issuing a resource

[4]That is, providing employment services before a potentially disabling condition results in an individual leaving the workforce.

[5]Curb Cuts to the Middle Class is a cross-agency initiative design to coordinate and leverage resources across the federal government, with the goal of placing individuals with disabilities in jobs with the federal government or federal contractors.

guide for employers regarding people with disabilities, OMB officials noted that the prior administration took two other actions to improve the capacity for agency coordination:

- The Departments of Education and Labor finalized regulations under the Workforce Innovation and Opportunity Act (WIOA), which includes a provision that requires states to set aside funds to assist students with disabilities transition from school to postsecondary education or the workforce, and allows state vocational rehabilitation agencies to prioritize serving students with disabilities.
- The administration proposed increased funding for supported employment programs in fiscal years 2016 and 2017 that could, for example, provide supported employment services for up to 2 years for individuals already in vocational rehabilitation programs. These efforts, however, are limited in scope or have not yet been implemented. Moreover, they do not relate to creating capacity for establishing goals and other mechanisms to ensure agencies are accountable for having a measureable impact on employment outcomes outside the federal sector.

Action Plan

OMB continued to not meet our criterion for developing action plans. As mentioned previously, the prior administration proposed establishing the Council. While the proposed Council is a promising approach, the Council has not received—as of January 2017—funding for fiscal year 2017, and it remains to be seen whether this proposal will be funded in the future. Moreover, the administration has yet to establish government-wide goals for people with disabilities achieving employment outside the federal sector. To help ensure focus through the new administration, OMB officials noted that, in addition to OMB developing transition plans, a number of agencies have 5-year strategic plans that will span the outgoing and incoming administrations. OMB officials also noted that it is ultimately up to the new administration to decide how to plan and coordinate across federal disability programs.

Monitoring

OMB partially met our criterion for monitoring. Since 2015, the administration continued to track and work toward increasing employment for people with disabilities at federal agencies, achieving the former President's goal of hiring 100,000 employees with disabilities over 5

years.[6] With respect to the goal to have people with disabilities comprise 7 percent of federal contractors, OMB officials told us that Labor is updating its case management system to track progress toward this goal. They added that Labor will collect information on contractor performance against this goal as it conducts compliance evaluations, thereby creating a good source of trend data over time. With respect to standardizing the way programs and agencies measure employment, OMB officials told us that the prior administration took a number of steps:

- The Departments of Labor and Education promulgated a joint final rule,[7] pursuant to a requirement in WIOA, which defines common measures to be used by the six core job training programs under the two departments.
- Other programs, such as the Supplemental Nutrition Assistance Program's Employment and Training program, have adopted similar measures.
- OMB officials stated that it is coordinating an interagency group to ensure all relevant agencies develop the necessary data infrastructure to collect information on these common measures.
- OMB officials said that the administration worked with VA to add employment-oriented measures to its Vocational Rehabilitation and Employment Program. Relatedly, officials noted that it is reasonable to expect the manner in which programs and agencies measure employment to vary to reflect the different challenges they face.

While common measures are helpful in measuring across programs, they do not provide and OMB still lacks a comprehensive picture of how disparate federal efforts support employment of those with disabilities outside the federal sector.

Demonstrated Progress

OMB partially met our criterion for demonstrating progress. In fiscal years 2011 through 2015, the administration reported hiring nearly 110,000 permanent employees with disabilities—including 98,000 full-time employees—exceeding the former President's goal of hiring 100,000 over this period. However, additional hiring goals have not been set and OMB

[6]This hiring goal was established by Exec. Order No. 13,163, and reiterated by Exec. Order No. 13,548. See 65 Fed. Reg. 46,563 (July 28, 2000) and 75 Fed. Reg. 45,039 (July 30, 2010).

[7]See 81 Fed. Reg. 55,792 (Aug. 19, 2016).

officials said it is up to the new administration whether and how to do so. With respect to the administration's goal to have people with disabilities comprise 7 percent of most federal contractors, OMB officials reported that Labor's initial results from this effort will not be available until mid-2017.[8] With respect to implementing measures across programs, OMB officials told us that, although the administration has yet to develop government-wide goals for the employment of people with disabilities across all sectors, they anticipate that demonstration projects overseen by the Council, if implemented, would identify successful early intervention approaches, which would inform the development of reasonable outcome measures.

Benefits Achieved by Implementing Our Recommendations

- **SSA Workloads:** In response to a past recommendation, SSA appointed a chief strategic officer responsible for coordinating agency-wide planning efforts, including those related to managing SSA's disability claims workloads.
- **VA Workloads:** Consistent with our past recommendation, in 2013 VA published its Strategic Plan to Eliminate the Compensation Claims Backlog, which identified implementation risks and metrics for the major initiatives mentioned in the Plan.
- **SSA Modernizing:** In response to past recommendations, SSA developed a project plan to assess risks to the success of the OIS, and has taken steps to estimate costs for necessary data collection and planned IT expenditures. SSA also worked with BLS to contract with experts to ensure they had the appropriate expertise to complete the OIS.
- In response to a past recommendation, SSA agreed to further study how it considers assistive technology in evaluating disability, and plans to seek input from the public and the medical community regarding changes in assistive technology in applicable upcoming medical listings. According to SSA, in September 2015 a committee convened by the National Academies of Science, Engineering and Medicine's Health and Medicine Division, was tasked under an existing contract with SSA, to analyze the use of selected assistive

[8]To meet this goal, Labor estimates that contractors will need to hire almost 600,000 people with disabilities.

products and technologies for adults, and a final report for SSA is expected in July 2017.

- **VA Modernizing**: In response to a past recommendation, in 2013 VA developed a project management plan that included plans for initiating subsequent updates to its disability rating schedule at regular intervals—whereby reviews of each body system are initiated on a staggered 5-year cycle to ensure no more than 10 years transpires without a review and possible revision of each body system.
- **VA Modernizing:** In response to a past recommendation, in 2014 VA updated its project management plan to reflect planned actions—such as identifying human resources to assist in developing and implementing proposed changes, and needed updates to guidance, training and systems—that would ensure smooth and timely implementation of revisions to its ratings schedule.

GAO Contact

For additional information about this high-risk area, contact Barbara Bovbjerg at (202) 512-7215 or bovbjergb@gao.gov.

Related GAO Products

Social Security Disability: SSA Could Increase Savings by Refining Its Selection of Cases for Disability Review. GAO-16-250. Washington, D.C.: February 11, 2016.

Veterans Disability Benefits: VA Can Better Ensure Unemployability Decisions are Well Supported. GAO-15-464. Washington, D.C.: July 2, 2015.

Veterans' Disability Benefits: Improvements Could Further Enhance Quality Assurance Efforts. GAO-15-50. Washington, D.C.: November 19, 2014.

Social Security Administration: Long-Term Strategy Needed to Address Key Management Challenges. GAO-13-459. Washington, D.C.: May 29, 2013.

Veterans' Disability Benefits: Timely Processing Remains a Daunting Challenge. GAO-13-89. Washington, D.C.: December 21, 2012.

VA Disability Compensation: Actions Needed to Address Hurdles Facing Program Modernization. GAO-12-846. Washington, D.C.: September 10, 2012.

Employment for People with Disabilities: Little Is Known about the Effectiveness of Fragmented and Overlapping Programs. GAO-12-677. Washington, D.C.: June 29, 2012.

Modernizing SSA Disability Programs: Progress Made, but Key Efforts Warrant More Management Focus. GAO-12-420. Washington, D.C.: June 19, 2012.

Pension Benefit Guaranty Corporation Insurance Programs

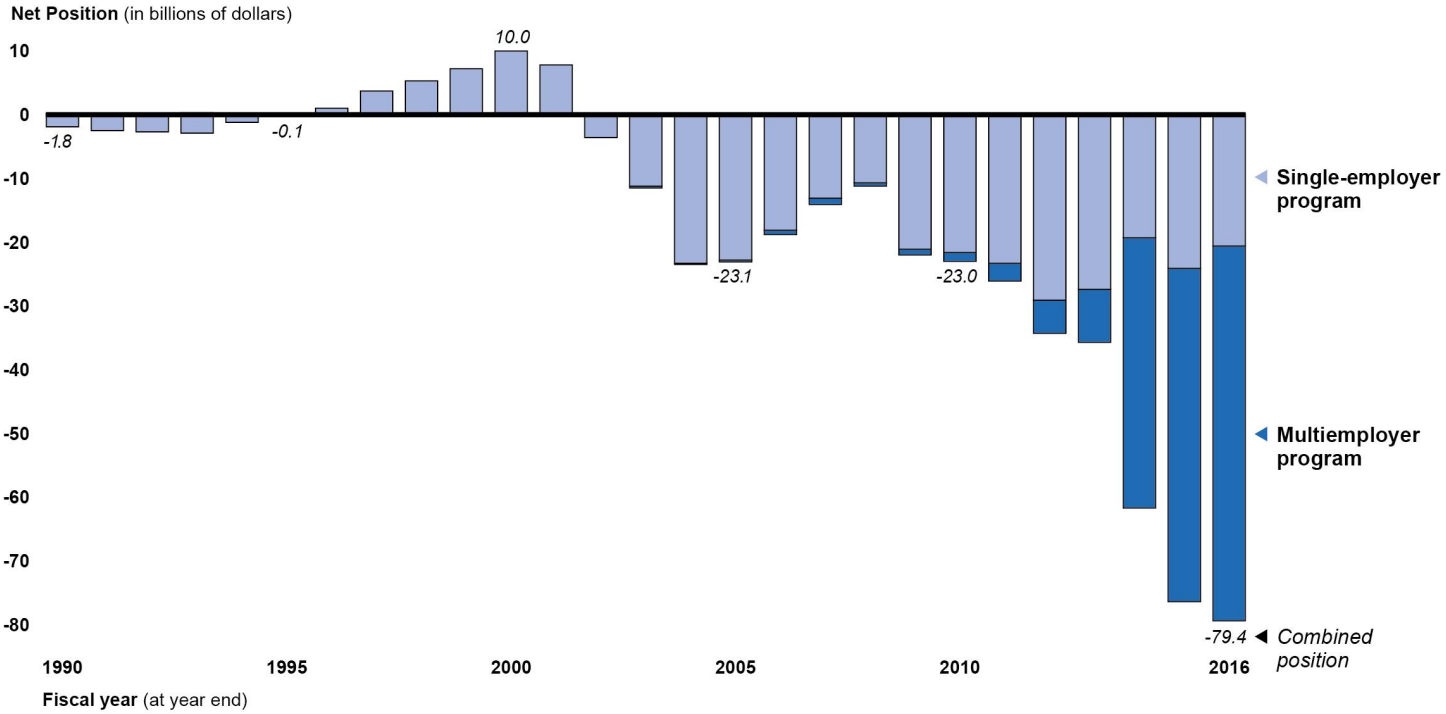
Why Area Is High Risk

With nearly $100 billion in assets, the Pension Benefit Guaranty Corporation's (PBGC) financial portfolio is one of the largest of any federal government corporation. Through its single-employer and multiemployer insurance programs, PBGC insures the pension benefits of nearly 40 million American workers and retirees who participate in nearly 24,000 private-sector defined benefit plans. PBGC's financial future remains uncertain, 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. We designated the single-employer program as high risk in July 2003 and added the multiemployer program in January 2009.

Since fiscal year 2013, PGBC's financial deficits have more than doubled. At the end of fiscal year 2016, PBGC's net accumulated financial deficit was over $79 billion—an increase of about $44 billion since 2013. At the same time, PBGC estimated that its exposure to future losses for underfunded plans was nearly $243 billion.[1] The single-employer program, composed of about 22,200 plans, accounted for $20.6 billion of PBGC's overall deficit (see figure 21). The multiemployer program, composed of only about 1,400 plans, accounted for about $59 billion. According to PBGC, these dramatic increases were attributable to broad economic factors and financial conditions of the plans PBGC insures.

[1]At the end of fiscal year 2016, PBGC estimated that its loss exposure in its single-employer program for reasonably possible plan terminations was over $223 billion and that its loss exposure in its multiemployer program for reasonably possible plans requiring future financial assistance was nearly $20 billion.

Figure 21: PBGC's Net Financial Position of the Single-Employer and Multiemployer Programs Combined – Net Position (in billions of dollars)



Source: Pension Benefit Guaranty Corporation (PBGC). | GAO-17-XXX

Various laws have been enacted to strengthen PBGC's financial position. For instance, the Pension Protection Act of 2006 (PPA) strengthened pension funding requirements for plans,[2] the Moving Ahead for Progress in the 21st Century Act (MAP-21) included measures to increase premium rates[3] and the Bipartisan Budget Act of 2013 increased premium rates further.[4] However, some of this legislation also included provisions that would allow single employer plan sponsors to defer mandatory

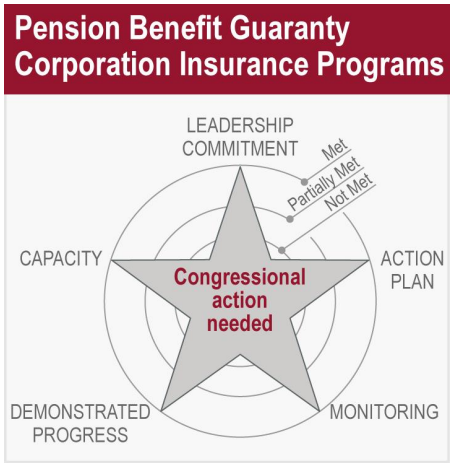
[2]Pub. L. No. 109-280, §§ 101,102, 111, 112, 201, 202, 211 and 212, 120 Stat. 780, 784-809, 820-46, 858-86 and 890-917. In response to the recession, these provisions were substantially softened—initially, by phasing in PPA's changes (Worker, Retiree, and Employer Recovery Act of 2008, Pub. L. No. 110-458, §§ 101, 102, 121 and 122, 122 Stat. 5092, 5093-5103, and 5113-14), and then through changes in how minimum contributions are calculated (Preservation of Access to Care for Medicare Beneficiaries and Pension Relief Act of 2010, Pub. L. No. 111-192, tit. II, 124 Stat.1280, 1283-1306).

[3]Pub. L. No. 112-141, §§ 40221 and 40222, 126 Stat. 405, 850-853.

[4]Pub. L. No. 113-67, § 703, 127 Stat. 1165, 1190-92.

contributions to their defined benefit pension plans.[5] To the extent that sponsors reduce contributions in the short term, they may increase plan underfunding and expose PBGC to greater risk. Recognizing the dramatic increase in PBGC's deficit because of particular financial and demographic challenges facing many multiemployer plans, the Multiemployer Pension Reform Act of 2014 (MPRA) was enacted in December 2014 with a number of provisions to promote the long-term viability of the multiemployer program.[6]

What GAO Found



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

As with our last report in 2015, there is no rating for this high-risk area because addressing the issues in this area primarily involves congressional action, while the high-risk criteria and subsequent ratings were developed to reflect the status of agencies' actions and the additional steps they need to take.

While PBGC faces a significant long-term challenge with its single-employer program, it faces an immediate and critical challenge with its multiemployer program. In a 2013 report, we recommended that Congress consider comprehensive and balanced structural reforms to

[5]Highway Transportation and Funding Act of 2014, Pub. L. No. 113-159, § 2003, 128 Stat. 1839, 1849-51.

[6]Pub. L. No. 113-325, div. O, 128 Stat. 2130, 2773-2822 (enacted as part of the Consolidated and Further Continuing Appropriations Act, 2015).

reinforce and stabilize the multiemployer system.[7] In December 2014, Congress took action to address the growing crisis in the multiemployer pension system by passing MPRA, which enacted several reforms responsive to our 2013 report on PBGC's multiemployer program.[8] Specifically, MPRA provided severely underfunded plans, under certain conditions and only with the approval of federal regulators, the option to reduce the retirement benefits of current retirees to avoid plan insolvency[9] and expanded PBGC's ability to intervene when plans are in financial distress.[10] In addition, MPRA doubled the premiums paid by multiemployer plans (from $13 to $26 per participant).[11] While these reforms are intended to improve the program's financial condition, projections suggest that the future insolvency of the multiemployer program remains likely. Prior to passage of MPRA, PBGC estimated that

[7]*Private Pensions: Timely Action Needed to Address Impending Multiemployer Plan Insolvencies*, GAO-13-240 (Washington, D.C.: March 2013).

[8]*Private Pensions: Timely Action Needed to Address Impending Multiemployer Plan Insolvencies*, GAO-13-240 (Washington, D.C.: March 2013). Stakeholders with whom we spoke in connection with our report identified reduction of retiree benefits as a last resort. We recommended that Congress consider comprehensive and balanced structural reforms, taking into consideration the relative burdens that each reform option would impose on the competing interests of all plan stakeholders. In a 2010 report, we also made several recommendations to PBGC regarding the multiemployer program. In response, PBGC took steps to improve its oversight of multiemployer plans. Agency officials reported that they began sharing more information on these plans with other agencies, and that they strengthened their monitoring by, among other things, re-assigning attorneys to work primarily on multiemployer plan matters, awarding an audit services contract to develop nonfinancial assistance to plans, and authorizing additional positions to oversee financial assistance for troubled plans. *Private Pensions: Changes Needed to Better Protect Multiemployer Pension Benefits*, GAO-11-79, (Washington, D.C.: Oct. 18, 2010.)

[9]§ 201(a)(6) and (b)(5), 128 Stat. 2799-2809 and 2811-22 (to be codified at 29 U.S.C. § 1085(e)(9) and 26 U.S.C. § 432(e)(9)). Benefits may not be reduced to less than 110 percent of the monthly amount guaranteed by PBGC. The maximum annual guarantee for 2016 was $12,870 for a retiree with 30 years of service. Benefit reductions are further limited for retirees over 75 and no benefits based on disability may be suspended. The Department of the Treasury, in consultation with the Department of Labor and PBGC, must approve any proposal to suspend benefits.

[10]§§ 121 and 122, 128 Stat. 2794-96 (to be codified at 29 U.S.C. §§ 1411(e) and 1413).

[11]§ 131(a)(1), 128 Stat. 2796-97 (to be codified at 29 U.S.C. § 1306(a)(3)(A)(vi)). In addition, the law established a mechanism to automatically adjust premiums annually for multiemployer plans and they increased to $28 in 2017. § 131(a)(2), 128 Stat. 2796-97 (to be codified at 29 U.S.C. § 1306(a)(3)(M)). Furthermore, MPRA requires PBGC to analyze the effect of the most recent premium increases on the multiemployer program deficit. If current premiums are not sufficient to meet current and future obligations of the program, PBGC must propose to Congress a schedule of revised premiums. § 131(c), 128 Stat. 2797-80.

the multiemployer insurance fund would likely be exhausted by 2022 as a result of current and projected plan insolvencies. PBGC officials noted that the act did not fully address the crisis in the multiemployer program and they predict that the changes will only forestall insolvency of the program probably by about an additional 3 years. Current estimates indicate that these changes will allow some plans to stay solvent and will reduce the cumulative unmet need for financial assistance to multiemployer plans by about half. As of January 2017, 10 pension plans had submitted 11 applications to suspend benefits under MPRA. (4 applications have been denied, 2 were withdrawn, 4 are under review, and 1 has been approved.) In addition, the Bipartisan Budget Act of 2013 and the Bipartisan Budget Act of 2015 increased premium rates for the single-employer program.[12]

PBGC continues to face long-standing funding challenges for its single-employer insurance program as well, due to an overall decline in the defined benefit pension system. While tens of thousands of companies continue to offer traditional defined benefit plans, the total number of plans has declined significantly, as has participation in those plans. Since 1985, there has been a 79 percent decline in the number of plans insured by PBGC to 23,769 plans in 2014 and more than 11 million fewer workers are actively participating in these plans. As a result, PBGC's premium base has been eroding over time as fewer sponsors are paying premiums for fewer participants.

Additionally, the structure of PBGC's premium rates—a key component of PBGC's funding—has long been another area of concern. Despite periodic increases in premium rates, which are set according to statute, the level of premiums has not kept pace with the magnitude and multiplicity of risks that PBGC insures against.[13] Moreover, plan underfunding is the only risk factor currently considered in determining a sponsor's premium rate. Since 2011, the administration has proposed legislative reforms that would authorize the PBGC board to adjust premiums and to explore designing a more risk-based premium structure. Under the current premium structure for its single-employer program, PBGC collects from sponsors a per-participant flat-rate premium and a

[12]Pub. L. No. 113-67, § 703, 127 Stat. 1165, 1190-92 and Pub. L. No. 114-74, § 501, 129 Stat. 584, 591-92.

[13]See 29 U.S.C. §§ 1306 and 1307.

variable-rate premium that is based on a plan's level of underfunding.[14] In 2012, we recommended that Congress consider authorizing a redesign of PBGC's premium structure for single-employer plans to allow incorporation of additional risk factors, such as consideration of a sponsor's financial health. PBGC officials stated that they have continued efforts to enhance understanding of alternative premium structures by analyzing the limitations of the current system and by modeling various alternative risk-based options. However, to date no legislation incorporating additional risk factors into PBGC's premium structure has been enacted.

PBGC's governance structure is another area of weakness noted in several of our past reports. In particular, we have long recommended that PBGC's board—currently composed of the Secretaries of the Treasury, Commerce, and Labor—be expanded to include additional members with diverse backgrounds who possess knowledge and expertise useful to PBGC's mission. This recommendation has not yet been enacted into law, but MAP-21 included provisions to improve PBGC's governance by prescribing in greater detail the working relationships between its Board of Directors and its Inspector General, General Counsel, Advisory Committee, and Director.[15] It also called for the National Academy of Public Administration (NAPA) to review PBGC's governance structure and to report on the ideal size and composition of its board.[16] In its September 2013 report, NAPA recommended to Congress that if the agency is provided greater responsibility over its policies, PBGC's board should be expanded.[17] Furthermore, we have long emphasized that PBGC requires strong and stable leadership to ensure that it can meet its future financial challenges.

In August 2016, the Secretary of Labor provided updated information related to several of these areas of concern. Regarding the long-term financial stability of both insurance programs, the Secretary noted that the President's 2017 budget again proposed that the PBGC Board be granted the authority to adjust premiums, and with that authority directed the

[14]PBGC also collects termination premiums from sponsors of single-employer plans that terminate their plans under certain circumstances. 29 U.S.C. § 1306(a)(7).

[15]§ 40231(a) and (d), 126 Stat. 853-54 and 855,.

[16]§ 40231(f), 126 Stat. 855-56.

[17]NAPA, *The Governance Structure of the Pension Benefit Guaranty Corporation: An Independent Review* (Washington, D.C.: September 2013).

Board to raise $15 billion in additional premium revenue from the multiemployer program. With regard to the recommendation to improve PBGC's governance structure, the PBGC Board has declined to pursue the matter further absent authorizing legislation. PBGC has recently established an Enterprise Risk Management function and plans to hire a Risk Management Officer to identify and determine appropriate actions to mitigate the risks identified. As of October 2016, PBGC had not yet filled this position or determined the areas of potential risk to be targeted.

What Remains to Be Done

Although Congress and PBGC have taken significant and positive steps to strengthen the agency over the past 3 years, concerns persist related to the multiemployer program and challenges related to PBGC's overall funding structure and governance. While changes were made with passage of MPRA, PBGC officials believe there is a 50 percent chance that the multiemployer program will be insolvent by the year 2025, and after that, the risk of insolvency rises rapidly—reaching 90 percent by 2032. Further, the premium structure for PBGC's single-employer program continues to result in rates that do not align with the risk the agency insures against and the effectiveness of PBGC's board remains hampered by its size and composition.

Moreover, PBGC continues to face the ongoing threat of losses from the termination of underfunded plans, while grappling with a steady decline in the defined benefit pension system. With each passing year, fewer employers are sponsoring defined benefit plans and the sources of funds to finance future claims are becoming increasingly inadequate. Absent additional steps to improve PBGC's finances, the long-term financial stability of the agency remain uncertain and the retirement benefits of millions of American workers and retirees could be at risk of dramatic reductions.

Congressional Actions Needed

To improve the long-term financial stability of both PBGC's insurance programs, Congress should consider:

- authorizing a redesign of PBGC's single employer program premium structure to better align rates with sponsor risk;

- adopting additional changes to PBGC's governance structure—in particular, expanding the composition of its board of directors;
- strengthening funding requirements for plan sponsors as appropriate given national economic conditions;
- 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
- 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.

Benefits Achieved by Implementing Our Recommendations

Table 8: Financial Savings from Fiscal Years (FY) 2013-2016: $4,570 million

Title	Amount ($ in millions)
Increase in Federal Revenues Based on Increased Premiums for the Pension Benefit Guaranty Corporation (PBGC) - MAP-21 (FY16 YR 4)	1,885
Increase in Federal Revenues Based on Increased Premiums for PBGC - Bipartisan Budget Act (FY16 YR 2)	850
Increase in Federal Revenues Based on Increased Premiums for PBGC - MAP-21 (FY15 YR 3)	1,065
Increase in Federal Revenues Based on Increased Premiums for PBGC - Bipartisan Budget Act (FY15 YR 1)	200
Increase in Federal Revenues Based on Increased Premiums for PBGC (FY14 YR 2)	350
Increase in Federal Revenues Based on Increased Premiums for PBGC - MAP 21 (FY13 YR 1)	220

Source: GAO. | GAO-17-317

- **Multiemployer Pension Reform.** We identified specific policy options to help multiemployer plans and the PBGC insurance program avoid insolvency, including recommending that Congress consider comprehensive reforms to stabilize the system. Congress enacted the Multiemployer Pension Reform Act, which included several options we identified.
- **Interagency Sharing of Multiemployer Plan Information.** To improve the quality of information and oversight of these plans, we

recommended that the Employee Benefits Security Administration (EBSA) in the Department of Labor, the Internal Revenue Service (IRS) in the Department of the Treasury, and the Pension Benefit Guaranty Corporation (PBGC) revise existing interagency memoranda of understanding to address, among other things, the agencies' process for sharing information they collect on multiemployer plans on an ongoing basis. In response to this recommendation, PBGC took numerous steps in the last 2 fiscal years to share multiemployer plan information with IRS and EBSA, including providing lists of (1) the universe of multiemployer plans, and terminated, insolvent, or terminated and insolvent multiemployer plans; (2) plans filing critical and endangered status notices; and (3) plans that failed to provide annual funding notices.

- **Proactive Monitoring of Multiemployer Plans.** To implement better and more effective oversight practices, we recommended that PBGC develop a more proactive approach to monitoring multiemployer plans, such as assigning case managers to work with the plans that pose the greatest risk to the agency and providing non-financial assistance to troubled plans on an ongoing basis before the plans became insolvent. PBGC has taken numerous actions since 2011 to implement better and more effective oversight practices including: (1) re-assigning four attorneys to work primarily on multiemployer plan matters; (2) awarding an audit services contract to allow PBGC staff time to develop nonfinancial assistance to plans; (3) initiating proactive efforts to identify plans that would benefit from PBGC technical assistance and informal guidance; (4) contacting troubled multiemployer plans to obtain data on the plan's financial situation and to create avenues to improve plan health and the financial assistance process; and (5) authorizing five additional positions to administer and oversee financial assistance extended to troubled multiemployer plans.

GAO Contact

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Related GAO Products

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Pension Benefit Guaranty Corporation: Improvements Needed to Strengthen Governance Structure and Strategic Management. GAO-11-182T. Washington, D.C.: December 1, 2010.

Private Pensions: Changes Needed to Better Protect Multiemployer Pension Benefits. GAO-11-79. Washington, D.C.: October 18, 2010.

National Flood Insurance Program

Why Area Is High Risk

The National Flood Insurance Program (NFIP) is a key component of the federal government's efforts to limit the damage and financial effect of floods. However, it likely will not generate sufficient revenues to repay the billions of dollars borrowed from the Department of the Treasury (Treasury) to cover claims from the 2005 and 2012 hurricanes or potential claims related to future catastrophic losses. This lack of sufficient revenue highlights what have been structural weaknesses in how the program is funded. Since the program offers rates that do not fully reflect the risk of flooding, NFIP's overall rate-setting structure was not designed to be actuarially sound in the aggregate, nor was it intended to generate sufficient funds to fully cover all losses.

Instead, Congress authorized the Federal Emergency Management Agency (FEMA)—the agency within the Department of Homeland Security (DHS) responsible for managing NFIP—to borrow from Treasury, within certain limits, when needed. Until the 2005 hurricanes, FEMA had used its authority to borrow intermittently and was able to repay the loans. As of March 2016, FEMA owed Treasury $23 billion, up from $20 billion as of November 2012. FEMA made a $1 billion principal repayment at the end of December 2014—its first such payment since 2010.

The Biggert-Waters Flood Insurance Reform Act of 2012 (Biggert-Waters Act) contained provisions to help strengthen the financial solvency of the program, including phasing out almost all discounted insurance premiums (for example, subsidized premiums). However, the extent to which its changes would have reduced NFIP's financial exposure is unclear. In July 2013, we reported that FEMA was starting to implement some of the required changes. However, on March 21, 2014, the Homeowner Flood Insurance Affordability Act of 2014 (HFIAA) was enacted. HFIAA reinstated certain premium subsidies and slowed down certain premium rate increases that had been included in the Biggert-Waters Act. Aspects of HFIAA were intended to address affordability concerns for certain property owners, but may also increase NFIP's long-term financial burden on taxpayers. Further, an outdated policy and claims management

system has also placed the program at risk. As a result of its substantial financial exposure and management and operations challenges, the program has been on our High-Risk List since 2006.

What GAO Found

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

Congress and FEMA have made progress in meeting the criteria for removing NFIP from the High-Risk List. In July 2012, the Biggert-Waters Act was enacted. The Biggert-Waters Act contained provisions to help strengthen the financial solvency of the program, including phasing out almost all discounted insurance premiums (for example, subsidized premiums). In March 2014, HFIAA was enacted. HFIAA reinstated certain premium subsidies and slowed down certain premium rate increases that had been included in the Biggert-Waters Act.

FEMA leadership has also shown a commitment to taking a number of actions to implement our recommendations. However, implementing required changes under the Biggert-Waters Act, as amended by HFIAA, and addressing allegations of improper claims adjusting practices after Hurricane Sandy have created capacity challenges for FEMA in addressing the financial exposure created by NFIP as well as improving program administration. FEMA has identified actions to implement our recommendations, but it has not yet developed a comprehensive plan to address all the issues that have placed NFIP on our High-Risk List.

For example, FEMA has a process in place to monitor progress in taking actions to implement our recommendations related to NFIP. But broader monitoring of the effectiveness and sustainability of its actions would help ensure that FEMA takes appropriate corrective actions. While FEMA has demonstrated progress toward improving NFIP's financial stability and program efficiency, these efforts are not complete. For example, FEMA has addressed our recommendations to improve the monitoring and reporting of NFIP contractor performance and validate data system changes before they become effective.

FEMA also has initiated actions to improve the accuracy of full-risk rates, but some of these efforts will continue over the next 5 to 10 years. In addition, we estimate that policyholders with certain subsidized premiums paid $216 million more in premiums as of the end of fiscal year 2015 than they would have paid prior to the enactment of the Biggert-Waters Act as a result of changes FEMA made in rates for these properties. However, FEMA still does not have all the necessary information to appropriately revise premium rates for certain subsidized properties. Other important actions, such as modernizing its policy and claims management system, also remain to be completed.

What Remains to Be Done

While FEMA leadership has displayed a commitment to addressing the challenges that have placed NFIP on the High-Risk List and has made progress in a number of areas, FEMA needs to take the following actions.

- Complete Biggert-Waters Act and HFIAA requirements that have not been fully met.
- Develop a comprehensive plan for removing NFIP from the High-Risk List.
- Initiate broader monitoring of the effectiveness and sustainability of its actions to help ensure that appropriate corrective actions are being taken.
- Continue ongoing efforts to improve its NFIP rate-setting methods and evaluate approaches to obtain flood risk information needed to determine full-risk rates for properties with previously subsidized rates.
- Complete efforts to establish a new information technology system for NFIP.

By completing the actions noted above, FEMA will likely improve its ability to address the financial exposure of the program and help ensure that the funds allocated to NFIP and premiums paid to the program are used effectively.

In addition, Congress should continue to consider changing the program to further address the competing goals of financial solvency and affordability.

Additional Details on What GAO Found

Leadership Commitment

FEMA partially meets this criterion. FEMA's leadership continues to show a commitment to implement our recommendations designed to help strengthen NFIP's future financial solvency and administrative efficiency. However, the 2014 enactment of HFIAA continues to present administrative challenges for FEMA leadership and affect the program's capacity to address the financial exposure created by NFIP. For example, HFIAA reinstated certain premium subsidies and slowed down some premium rate increases that had been included in the Biggert-Waters Act. In addition, the Biggert-Waters Act required that FEMA establish a reserve fund to be available for meeting the expected future obligations of NFIP, and HFIAA includes an annual surcharge for all policies ($25 for most policies) to be added to the reserve fund. However, FEMA stated in its June 2016 Quarterly NFIP Reserve Fund Report to Congress that it would not reach the required reserve fund balance of $12.8 billion for fiscal year 2015.

FEMA stated that as long as the NFIP maintains outstanding debt, it would expect that the reserve fund will not reach the required balance, as amounts collected may be periodically transferred to Treasury to reduce the NFIP's debt or to pay claims and expenses in years when claims are high. For example, according to DHS officials, FEMA notified Congress in October 2016 that it planned to use reserve funds to pay for claims related to the 2016 flooding in Louisiana and Hurricane Matthew because the National Flood Insurance Fund had been exhausted. FEMA further stated in its June 2016 report that in order to make any significant progress toward increasing the reserve fund balance or paying down the NFIP debt, the reserve assessment would need to be significantly increased. In January 2017, FEMA obtained reinsurance for NFIP effective January 1, 2017 through January 1, 2018. A FEMA official noted

that securing reinsurance was a key step toward building a stronger financial framework for NFIP. Under the agreement, reinsurers agreed to cover 26 percent of NFIP claims between $4 billion and $8 billion on losses from events that occur in 2017.

Capacity

FEMA partially meets this criterion. FEMA's capacity continues to be strained as it deals with multiple challenges, including implementing required changes under the Biggert-Waters Act, as amended by HFIAA. For example, as we reported in December 2016, FEMA officials told us that the agency's progress implementing the Biggert-Waters Act requirement to revise its compensation methodology had slowed as litigation over Hurricane Sandy claims escalated and more resources were assigned to that issue.

FEMA has made some progress to address weaknesses that we previously noted could limit its ability to effectively and efficiently implement NFIP. For example, we made two recommendations in a January 2014 report aimed at improving FEMA's monitoring and reporting of contractor performance, such as ensuring that federal contracting officials have complete and timely information about contractor performance. FEMA provided us with documentation describing how the agency plans to ensure the timeliness of contractor performance assessments and address our other concerns.

We also recommended in a December 2014 report that FEMA institute controls to validate changes to the NFIP data system. In March 2015, FEMA instituted the use of a new procedure manual, including a testing plan, for data system programming changes required to implement NFIP rate and rule changes. This procedure manual outlines the steps and approvals needed to plan, develop, test, and deploy NFIP data system changes.

However, FEMA faces challenges implementing required Biggert-Waters Act and HFIAA requirements, including the complexity of the legislation and timing of the enactment of HFIAA, resource constraints, and the competing program goals of financial solvency and affordability. In October 2016, DHS officials told us that FEMA had met requirements to complete 20 of the 34 Biggert-Waters sections and 14 of the 25 HFIAA sections and was taking action on other sections.

Action Plan

FEMA partially meets this criterion. FEMA has identified actions to address the recommendations from our individual reports. In January 2017, a FEMA official noted that the agency tracks GAO recommendations through its internal controls program. The official added that FEMA is planning to enhance its Enterprise Risk Management approach to track those GAO recommendations that impact its risk profile. However, FEMA lacks a comprehensive plan that addresses the issues that have placed NFIP on our High-Risk List. While addressing our recommendations is part of such a plan, a comprehensive plan defines the root causes, identifies effective solutions, and provides for substantially completing corrective measures near term. Such a plan could help FEMA ensure that all important issues, and all aspects of those issues, are addressed.

Monitoring

FEMA partially meets this criterion. FEMA has a process in place to monitor progress in taking actions to implement our recommendations related to NFIP. For example, the status of efforts to address the recommendations is regularly discussed both within FEMA and at the DHS level, according to a DHS official. However, FEMA lacks a specific process for independently validating the effectiveness or sustainability of those actions. According to a DHS official, once FEMA implements a recommendation related to NFIP, it does not track separately the effects of the actions taken to do so, but instead regularly reviews the effectiveness of the entire program. Additional monitoring of the effectiveness and sustainability of its specific actions taken to address our recommendations would help ensure that appropriate corrective actions are being taken.

Demonstrated Progress

FEMA partially meets this criterion. FEMA has demonstrated progress toward improving NFIP's financial stability and program operations. As previously discussed, FEMA has taken steps to address our recommendations to improve how it monitors and reports NFIP contractor performance and validates data system changes before they become effective. However, progress is needed in other areas. For example, in 2008 we recommended that FEMA take steps to ensure that rate-setting methods and the data used to set rates result in full-risk premiums that

accurately reflect the risk of flooding. We found that FEMA's method for setting its full-risk rates may not ensure that the rates accurately reflect the actual risk of flood damage. In 2013, we also recommended that FEMA develop and implement a plan to obtain flood risk information needed to determine full-risk rates for properties with previously subsidized rates. We found that FEMA generally lacks information needed to apply full-risk rates to certain subsidized properties.

As of March 2016, FEMA officials identified a number of actions the agency has taken or has underway to improve its NFIP rate-setting methods, but the officials noted that some of these efforts would continue over the next 5 to 10 years. In addition, as a result of changes FEMA has made in rates for certain subsidized properties (specifically, subsidies for primary residences, non-primary residences, and residential severe repetitive loss properties), we estimate that policyholders with these subsidized premiums paid $216 million more in premiums as of the end of fiscal year 2015 than they would have paid prior to the enactment of the Biggert-Waters Act. FEMA officials also said that they are evaluating approaches, including using new technologies, to collect elevation information for subsidized properties without financially burdening policyholders.

FEMA has demonstrated progress in improving other areas of the program's operations, such as continuity planning. However, some important actions, such as modernizing its information technology systems—including those for financial reporting and its policy and claims management system—remain to be completed. In 2011, we recommended that FEMA develop guidance and a related plan for continuing operations during federal disasters to help ensure consistent day-to-day operations when staff are deployed to disaster sites or reassigned to work on disaster-related issues. As part of developing its 2012 continuity plan, FEMA identified critical staff as well as the key operations that need to continue when staff are deployed in response to a federal disaster and how operations will continue during such periods.

In 2011, in our review of FEMA's financial management, we reported that staff faced multiple challenges in their day-to-day operations due to limitations in the systems they must use to perform these operations. In this same report, we also noted that FEMA faces challenges modernizing NFIP's insurance policy and claims management system. After 7 years and $40 million, FEMA ultimately canceled its NextGen effort in November 2009 because the system did not meet user expectations. Since that time, FEMA established a steering committee tasked with

overseeing FEMA's next attempt to modernize its policy and claims processing system and began implementing some changes to its acquisition management practices. It remains to be seen if these efforts will help FEMA avoid some of the problems that led to NextGen's failure. In late-November 2014, FEMA officials told us that the agency was in the acquisition stage for a new system called "Phoenix" that will replace NextGen and NFIP's current financial and reporting system. In January 2017, a FEMA official stated the DHS acquisition review board had granted FEMA permission to procure and build the new system.

GAO Contact

For additional information about this high risk area, contact Alicia Puente Cackley at (202) 512-8678 or cackleya@gao.gov.

Related GAO Products

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Managing Risks and Improving VA Health Care

Why Area Is High Risk

Since designating Department of Veterans Affairs (VA) health care as a high-risk area in 2015, we continue to be concerned about VA's ability to ensure its resources are being used cost-effectively and efficiently to improve veterans' timely access to health care, and to ensure the quality and safety of that care. VA's Veterans Health Administration (VHA) operates one of the largest health care delivery systems in the nation, with 168 medical centers and more than 1,000 outpatient facilities organized into regional networks. VA has faced a growing demand by veterans for its health care services—due, in part, to servicemembers returning from the United States' military operations in Afghanistan and Iraq and the needs of an aging veteran population—and that trend is expected to continue. For example, the total number of veteran enrollees in VA's health care system rose from 7.9 million to almost 9 million from fiscal year 2006 through fiscal year 2016. Over that same period, VHA's total budgetary resources have increased substantially, from $37.8 billion in fiscal year 2006 to $91.2 billion in fiscal year 2016.

Although VA's budget and the total number of medical appointments provided have substantially increased for at least a decade, there have been numerous reports in this same period of time—by us, VA's Office of the Inspector General, and others—of VA facilities failing to provide timely health care. In some cases, the delays in care or VA's failure to provide care at all reportedly have resulted in harm to veterans. In response to these serious and longstanding problems with VA health care, the Veterans Access, Choice, and Accountability Act of 2014 (Pub. L. No. 113-146, 128 Stat. 1754) was enacted, which provided temporary authority and $10 billion in funding through August 7, 2017 (or sooner, if those funds are exhausted) for veterans to obtain health care services from community (non-VA) providers to address long wait times, lengthy travel distances, or other challenges accessing VA health care. Under this authority, VA introduced the Veterans Choice Program in November 2014. The $10 billion is meant to supplement VA's medical services budget and is funded through a separate appropriations account, the Veterans Choice Fund. The 2014 law also appropriated $5 billion to

expand VA's capacity to deliver care to veterans by hiring additional clinicians and improving the physical infrastructure of VA's medical facilities.

VA faces challenges regarding the reliability, transparency, and consistency of its budget estimates for medical services, as well as weaknesses in tracking obligations for medical services and estimating budgetary needs for future years. These challenges were evident in June 2015, when VA requested additional funds from Congress because agency officials projected a fiscal year 2015 funding gap of about $3 billion in its medical services appropriation account.[1] The projected funding gap was largely due to administrative weaknesses that slowed the utilization of the Veterans Choice Program in fiscal year 2015 and resulted in higher-than-expected demand for VA's previously established VA community care programs. In particular, VA officials expected that the Veterans Choice Program would absorb much of the increased demand from veterans for health care services delivered by non-VA providers, but instead the slow utilization resulted in veterans continuing to receive care through previously established VA community care programs that drew funds from VA's medical services appropriation account. To avoid a projected funding gap in VA's medical services appropriation account, the VA Budget and Choice Improvement Act provided VA temporary authority to use up to $3.3 billion from the Veterans Choice Program appropriation for obligations incurred for other specified medical services, starting May 1, 2015, until October 1, 2015.[2]

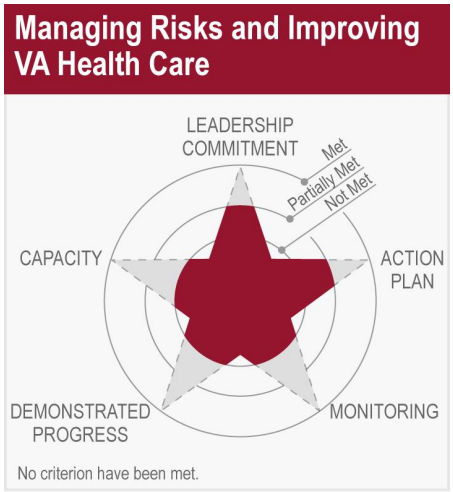
While timely and cost-effective access to needed health care services is essential, care coordination between VA and community providers, and between VA and the Department of Defense (DOD) (for transitioning servicemembers), is also critical to preventing unfavorable health outcomes for veterans. With the increased utilization of community providers that has occurred as a result of the Veterans Access, Choice, and Accountability Act, veterans are required to navigate multiple complex health care systems—the VA health care system and those of community providers—to obtain needed health care services. The quality

[1]In this report, the projected funding gap refers to the period in fiscal year 2015 when VA's obligations for medical services were projected to exceed its available budget authority for that purpose for that year. The Antideficiency Act prohibits agencies from incurring obligations in excess of available budget authority. 31 U.S.C. § 1341(a). An evaluation of whether an Antideficiency Act violation occurred in fiscal year 2015 was outside the scope of our work.

[2]Pub. L. No. 114-41, Tit. IV, § 4004, 129 Stat. 443, 463-464 (2015).

of veterans' care may be adversely affected if VA and community providers do not promptly communicate important clinical information. In addition, servicemembers transitioning from DOD to VA health care may experience problems if, for example, VA inappropriately discontinues medications, such as those for mental health conditions, because of a lack of clarity in VA's medication continuation policy, potentially increasing the risk for adverse health effects.

What GAO Found



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

Overall, VA has partially met the criteria for leadership commitment and an action plan to address the five areas of concern we identified when we placed VA health care on our High-Risk List in 2015. These five areas of concern are: (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. VA has not met the other criteria for removal: capacity to address the areas of concern, monitoring implementation of corrective actions, and demonstrating progress.

Although we concluded in our overall assessment that VA's actions partially met two of our five criteria for removal from the High-Risk List, it is worth noting that the department made significantly less progress in addressing the action plan criterion than it has in demonstrating leadership commitment. Specifically, VA partially met the action plan criterion for only one of the five areas of concern—ambiguous policies

and inconsistent processes—whereas VA partially met the leadership commitment criterion for four out of five areas of concern (VA did not meet the leadership commitment criterion for inadequate training for VA staff). The department must make significant progress on the action plan criterion for all five areas of concern we identified in order to meet this criterion for removal from our High-Risk List.

VA officials have expressed their commitment to addressing the department's High-Risk List designation, and have taken actions such as establishing a task force, working groups, and a governance structure for addressing the issues contributing to the designation. For example, in July 2016, VA chartered the GAO High-Risk List Area Task Force for Managing Risk and Improving VA Health Care (task force) to develop and oversee implementation of VA's plan to address the root causes of the five areas of concern we identified. VHA's Deputy Under Secretary for Health (USH) for Organizational Excellence serves as the executive agent for the task force, with support from a combination of permanent and temporary staff. This senior VHA position was created in 2015 and is responsible for overseeing offices focused on assessing and improving health care quality and safety, providing VA leadership with analytics to assess VHA's performance, and addressing issues related to public trust and integrity. For each of the five areas of concern we identified, VA has established a working group with two senior-level VA officials as leaders. These workgroups and officials are responsible for developing and executing VA's high-risk mitigation plan for each of our five areas of concern.

VA has also contracted with two entities to support VA's actions to address the high-risk designation. The first contract—with a Federally Funded Research and Development Center operated by the MITRE Corporation—is focused on (1) developing and executing an action plan, (2) creating a plan to enhance VA's capacity to manage High-Risk List areas, and (3) recommending changes to the organizational structure VA set up to address the high-risk designation. The total contract value is $5.2 million, with an 8-month performance period that began on June 20, 2016 and 1 option year. The second contract—with Atlas Research, LLC—is for project management staff who will help establish a program executive office within the office of the VHA Deputy USH for Organizational Excellence, and assist with establishing the management functions necessary to oversee the five high-risk area working groups. The total contract value is $2.6 million, with a 1-year performance period that began on September 9, 2016 and the option to extend services for up to 6 additional months.

Since we added VA health care to our High-Risk List in 2015, VA's leadership has increased its focus on implementing our recommendations. Between January 2010 and February 2015 (when we designated VA health care as a high-risk area), we issued products containing 178 recommendations related to VA health care. When we made our designation in 2015, the department had only implemented about 22 percent of them—39 of the 178 recommendations. In the last 2 years, VA has made good progress, but additional work is needed. Since we designated VA health care as a high-risk area, we have made 66 new recommendations related to VA health care, for a total of 244 recommendations from January 1, 2010 through December 31, 2016. VA has implemented about 50 percent of the recommendations we have made since 2010—122 of the 244 recommendations. (See table 9.) It is critical that VA implement our recommendations not only to remedy the specific weaknesses identified, but because they may be symptomatic of larger underlying problems that also need to be addressed.

Table 9: Status of GAO Recommendations Related to Department of Veterans Affairs (VA) Health Care from Calendar Year 2010 through Calendar Year 2016

Status of recommendations	Number of recommendations when VA health care was added to GAO's High-Risk List (February 11, 2015)	Number of recommendations as of December 31, 2016
Open because VA has not yet implemented them	134	109[a]
Closed because VA implemented them	39	122
Closed without VA implementing them[b]	5	13
Total	**178**	**244**

Source: GAO. | GAO-17-317.

[a]Of these 109 recommendations, 27 have been open for 3 or more years.

[b]We close recommendations without agencies having implemented them primarily if the recommendation is no longer valid because circumstances have changed.

On August 18, 2016, VA provided us with an action plan for addressing the High-Risk List designation that acknowledged the deep-rooted nature of the areas of concern we identified, and stated that these concerns would require substantial time and work to address. Although the action plan outlined some steps VA plans to take over the next several years to address its high-risk designation, the overall document did not satisfy the action plan criterion for removal. Specifically, several sections were

missing actions that support our criteria for removal, such as analyzing the root causes of the issues and measuring progress with clear metrics. In our feedback to VHA on drafts of their action plan, we highlighted these missing actions and also stressed the need for specific timelines and an assessment of needed resources for implementation. For example, VA plans to use staff from various sources, including contractors and temporarily detailed employees, to support their high-risk area working groups, so it will be important for VA to ensure that these efforts are sufficiently resourced.

While VA has demonstrated partial leadership commitment in most of the five areas of concern, significant gaps remain between VA's stated plans and its actual progress. This lack of progress is evidenced by findings from our recent work, which have led us to make new recommendations that relate to each of the five areas of concern we highlighted in 2015. (See table 10.)

Table 10: GAO Recommendations Related to Department of Veterans Affairs (VA) Health Care from Calendar Year (CY) 2010 through CY 2016, by Area of Concern

VA health care area of concern	Number of recommendations prior to GAO high-risk designation (Jan. 1, 2010 through Feb. 11, 2015)[a]	Number of recommendations added since GAO high-risk designation (Feb. 11, 2015 through Dec. 31, 2016)[a]	Cumulative percentage of GAO recommendations VA has implemented, CY 2010 through CY 2016
Ambiguous policies and inconsistent processes	42	20	52%
Inadequate oversight and accountability	63	31	50
Information technology challenges	11	2	44
Inadequate training for VA staff	6	7	46
Unclear resource needs and allocation priorities	48	5	65
Not assigned to an area of concern	8	1	44
Total	**178**	**66**	**50%**

Source: GAO. | GAO-17-317.

[a]Recommendation counts listed include both implemented and not implemented recommendations as of the dates indicated.

What Remains to Be Done

Since we added VA health care to our High-Risk List in 2015, VA has acknowledged the significant scope of the work that lies ahead. VA took an important step toward addressing our criteria for removal by establishing the leadership structure necessary to ensure that actions related to the High-Risk List are prioritized within the department. It is imperative, however, that VA maintain strong leadership support as it completes its transition into a new presidential administration.

In its action plan, VA separated its discussion of department-wide initiatives from its description of High-Risk List mitigation strategies. These department-wide initiatives include MyVA, which intends to make changes to VA's systems and structures to (1) improve the veteran experience, (2) improve the employee experience, (3) achieve support services excellence, (4) establish a culture of continuous performance improvement, and (5) enhance strategic partnerships. We do not view high-risk mitigation strategies as separate from other department initiatives; actions to address the High-Risk List can and should be integrated in VA's existing activities. As a new administration sets its priorities, VA will need to integrate those priorities with its high-risk related actions, and facilitate their implementation at the local level through strategies that link strategic goals to actions and guidance. In addition, VA will need to demonstrate that it has the capacity to sustain efforts by devoting appropriate resources—including people, training, and funds—to address the high-risk challenges we identified.

VA's action plan for addressing its high-risk designation 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. This is especially evident in VA's plans to address the IT and training areas of concern. In addition, with the increased use of community care programs, it is imperative that VA's action plan include a discussion of the role of community care in decisions related to policies, oversight, IT, training, and resource needs. We will continue to monitor VA's institutional capacity to fully implement and sustain needed changes, including those related to its IT transformation, comprehensive training management plan, and resourcing decisions.

Finally, to help address our high-risk designation, VA should continue to implement our recommendations and recommendations from other reviews such as the Commission on Care. The Veterans Access, Choice, and Accountability Act of 2014 established the Commission on Care to examine, assess, and report on veterans' access to VA health care and to strategically examine how best to organize VHA, locate health resources, and deliver health care to veterans during the next 20 years.[3] The Commission's June 2016 report to the President included 18 recommendations to improve veterans' access to care and, more broadly, to improve the quality and comprehensiveness of that care. For example, the Commission recommended that VHA create local, networked systems of care that integrate VA-based care and community care and remove restrictions to veterans seeking care from community providers. On September 1, 2016, the President concurred with 15 of the 18 recommendations and directed VA to implement them.

We will continue to monitor VA's efforts to address our high-risk areas of concern, including the department's efforts to implement the 15 Commission on Care recommendations for which the President directed VA action. We also have ongoing work focusing on VA health care, including its policy development and dissemination process; controls and oversight for controlled substances; Veterans Choice Program implementation; physician recruitment and retention; the process for enrolling veterans in VA health care. In particular, the following selected recommendations require VA's immediate attention:

- improving oversight of access to timely medical appointments, including the development of wait-time measures that are more reliable and not prone to user error or manipulation, as well as ensuring that medical centers consistently and accurately implement VHA's scheduling policy.
- improved oversight of VA community care to ensure—among other things—timely payment to community providers.
- improved planning, deployment and oversight of VA/VHA IT systems, including identifying outcome-oriented metrics and defining goals for interoperability with DOD.
- ensuring that recommendations resulting from internal and external reviews of VHA's organizational structure are evaluated for implementation. This process should include the documentation of

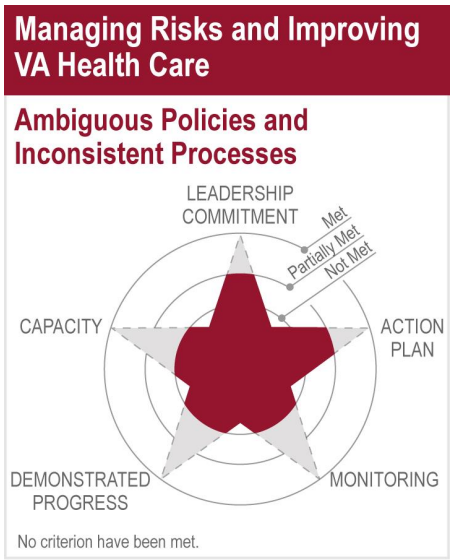
[3]Pub. L. No. 113-146, § 202(a)(1), 128 Stat. 1754, 1773 (2014).

decisions and assigning officials or offices responsibility for ensuring that approved recommendations are implemented.

It is critical that Congress maintain its focus on oversight of VA health care to help address this high-risk area. Congressional committees responsible for authorizing and overseeing VA health care programs held more than 70 hearings in 2015 and 2016 to examine and address VA health care challenges. In addition, as VA continues to change its health care service delivery in the coming years, some changes may require congressional action—such as VA's planned consolidation of community care programs after the Veterans Choice Program expires. Sustained congressional attention to these issues will help ensure that VA continues to improve its management and delivery of health care services to veterans.

Additional Details on What GAO Found

Ambiguous Policies and Inconsistent Processes



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

When we designated VA health care as a high-risk area in 2015, we reported that ambiguous VA policies led to inconsistent processes at local VA medical facilities. Based on actions taken since 2015, VA has partially met our criteria for removal for its leadership commitment and action plan. However, VA has not met our criteria for removal for capacity, monitoring, and demonstrated progress for this area of concern.

Leadership Commitment

VA has partially met the leadership commitment criterion because it has established a framework for developing and reviewing policies—with the goal of ensuring greater consistency and clarity—and set goals for making the policy-development process more efficient. VA outlined this framework in the 2016 revision of a VHA directive on policy development and management, which clarifies the types of VHA documents that constitute policy. VA's action plan for this high-risk area of concern further described VHA's plans to review its 168 medical centers' local policies to ensure they are consistent with national policy. VHA has also established a long-term goal of reviewing all of its approximately 800 health care

policies to determine they are current and have undergone the revised review process by the end of fiscal year 2021. In 2016, VHA estimated that almost 60 percent of the 800 policies had not been recertified, meaning they had not been reviewed in at least 5 years to ensure they are up-to-date and still relevant. Although VA has established a policy-related framework and goals, its action plan does not clearly outline how VA intends to achieve these goals. As a result, VA leadership has limited ability to demonstrate continuing oversight and accountability, which is one example of an action that would contribute to meeting the leadership commitment criterion for removal from our High-Risk List.

Capacity

VA has not met the capacity criterion because of significant gaps between its stated goals and the resources available to achieve them. VA's high-risk working group on ambiguous policies and inconsistent processes is a first step towards establishing the capacity necessary to address this area of concern. VA has allocated staff and awarded contracts to support the department's overall high-risk effort, but its action plan for this area does not explain how VA will allocate staff and resources to support its plans to address ambiguous policies and inconsistent processes, such as the professional policy writers VA states it needs to ensure consistent policy content and quality.

Other actions VA needs to take to demonstrate capacity in this area of concern include maintaining procedures that have recently been established; training appropriate staff in policy development, implementation, and oversight; and addressing gaps such as unofficial policy documents. One example of unofficial policy is memoranda sent by the VHA Deputy USH for Operations and Management to regional network offices and VA medical centers. These memoranda are treated as new policy, but they have not been vetted by other VA offices, potentially creating confusion at the local level between mandatory and suggested actions.

Action Plan

VA has partially met the action plan criterion for this high-risk area of concern because its action plan described an analysis of the root causes of problems related to ambiguous policies and inconsistent processes, an important aspect of an action plan. VA's root cause analysis for this area of concern identified a lack of collaboration ("an inability to span boundaries"), good performance metrics, and a proper skill set as the

three most common root causes for 20 shortcomings it identified in processes associated with developing, implementing, and overseeing policy. VA has specific actions planned to address the identified root causes, including milestones such as piloting the revised policy process in the first half of fiscal year 2017. However, without meeting the capacity actions described previously, VA's time frames for completing tasks may not be realistic. For example, VA has a milestone of reviewing and recertifying 40 percent of the VHA policies that need such a review by the first quarter of fiscal year 2018. Using VHA's estimate of 471 (59 percent of 800) policies being past their recertification date, VHA officials would have to review and revise 188 policies between fiscal year 2017 and the first quarter of fiscal year 2018 to achieve this 40 percent goal. Without a fully-established policy revision process in place, or the professional policy writers available to revise policies, VA cannot effectively meet these milestones. VA needs to use the root cause analysis results to develop more realistic milestones and metrics for this area, and ensure that critical actions and outcomes are prioritized given any identified limitations in capacity.

Monitoring

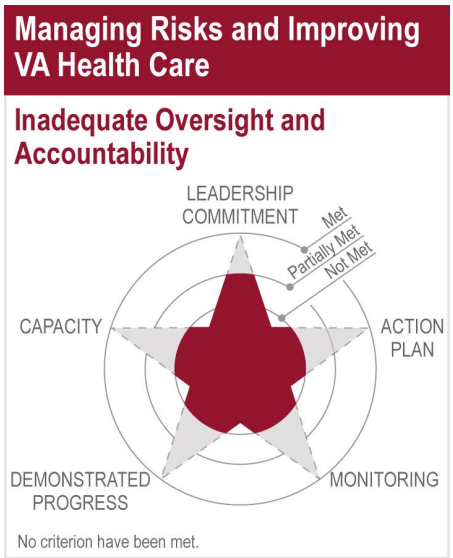
VA has not met the monitoring criterion for our concerns related to ambiguous policies and inconsistent processes. VA has many planned actions that have not yet been implemented, including plans to ensure policy is implemented consistently at local and national levels, as well as plans to identify and address unofficial sources of policy. We also have continued to find evidence in our recent work of inconsistencies in policy application that will need to be addressed to show that VA is monitoring policies. For example, we highlighted the inconsistent application of policies in two recent reports examining mental health and primary care access at VA medical facilities in 2015 and 2016, respectively. In both reports, we found wide variation in the time that veterans waited for primary and mental health care, which was in part caused by a lack of clear, updated policies for scheduling—therefore, we recommended that VA update these policies. These ambiguous policies contributed to errors made by appointment schedulers, which led to inconsistent and unreliable wait-time data. For mental health, we also found that two policies conflicted, leading to confusion among VA medical center staff as to which wait-time policy to follow. In 2015, VA resolved this policy conflict by revising its mental health handbook, but other inconsistent applications of mental health policy have not yet been addressed, such as our recommendation to issue guidance about the definitions used to calculate

veteran appointment wait times, and communicate any changes to those definitions within and outside VHA.

Demonstrated Progress

VA has not met the demonstrated progress criterion for removal. We are unable to assess VA's actions in this area because without the clear milestones and metrics necessary to track performance, VA cannot demonstrate that its actions are linked to identified root causes and that it is effectively managing this area of concern. We have ongoing work examining VA's actions to ensure that policies related to veterans' health care are consistently communicated and implemented, and we will continue to monitor VA's progress in this area.

Inadequate Oversight and Accountability



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

In our 2015 high-risk report, we found that VA has had problems holding its facilities accountable for their performance because it relied on self-reported data from facilities, its oversight activities were not sufficiently focused on compliance, and it did not routinely assess policy implementation. VA has partially met the leadership commitment criterion for this area of concern because it established a high-level governance structure and adopted a new model to guide the department's oversight and accountability activities. However, VA has not met our criteria for removal for capacity, action plan, monitoring, or demonstrated progress because the department continues to rely on existing processes that contribute to inadequate oversight and accountability.

Leadership Commitment

VA partially met the leadership commitment criterion because it has made progress in establishing the governance structure necessary to address oversight and accountability concerns. In 2016, VA established the VHA office of the Assistant Deputy USH for Integrity, who reports to the Deputy USH for Organizational Excellence. The Office of Integrity is responsible for the day-to-day management of subordinate offices focused on internal and external audits, compliance, and ethics. It is also an important component of VA's new "Three Lines of Defense" model for risk

management and control, which VA estimates it will adopt beginning in fiscal year 2017: (1) front line managers oversee policy implementation; (2) regional-network- and national-level program officials ensure national programs are consistently implemented; and (3) VA central office independently conducts assurance activities and investigations, such as inspections and audits. The Assistant Deputy USH for Integrity is primarily responsible for the third line of defense, but will interact with all three lines. In order to fully meet the leadership commitment criterion, VA will need to demonstrate that it is providing oversight of, and ensuring accountability for, implementation of the Three Lines of Defense model at each level of VHA (medical centers, networks, and central office). It will also need to finish establishing the offices and resources needed to support oversight and accountability functions. For example, VA's third line of defense includes establishing a new office of Internal Audit and Risk Assessment. However, as of December 2016, VA leadership had not yet approved the draft directive establishing this office and authorizing it to carry out its planned functions.

Capacity

VA has not taken sufficient actions to meet the capacity criterion for removing this area of concern from our High-Risk List. Although VA has begun to allocate staff and resources by establishing the VHA office of the Assistant Deputy USH for Integrity, the success of its new oversight and accountability model depends on establishing consistent policies and ensuring that staff at all levels are complying with them. VA staff will need sufficient guidance and training to address skills gaps and to correct identified deficiencies, and VA's new office of Internal Audit and Risk Assessment (a key component of its new oversight and accountability model) will need to be fully resourced, staffed, and operational. In addition, VA identified a need for increased training in ethics, as well as a need for staff with this specific expertise at the local level. However, VA's action plan does not discuss how these actions will be resourced, including hiring staff or obtaining other resources necessary to ensure that such knowledge is in place.

Action Plan

VA also has not met the action plan criterion for addressing our concerns about oversight and accountability. In its action plan, VA identifies root causes based on an "environmental analysis" of its health care oversight structure, such as the lack of a formal audit capacity. However, the identified root causes are not linked to clear milestones, metrics, or

processes for reporting on progress. VA plans to include metrics in every new or revised policy to allow officials to determine whether the policy is being appropriately implemented and meets objectives. However, as described earlier, VHA's new policy development and revision process is still in its early stages. Without clear milestones and metrics linked to root causes of the problem, VA cannot assess its implementation status or demonstrate progress against goals. For example, in our May 2016 report on the Veterans Crisis Line (a 24-hour telephone line staffed by responders who assist veterans in emotional crisis), we found VA established key performance indicators to evaluate crisis line operations but had no measureable targets or time frames established for their completion. One of the indicators related to rate at which crisis line callers abandoned their calls prior to speaking with a responder, but VA did not set a minimum or ideal performance target for this indicator. We recommended that VA document clearly stated and measurable targets and time frames for key performance indicators needed to assess Veterans Crisis Line performance, in order to improve the timeliness and quality of crisis line responses to veterans.

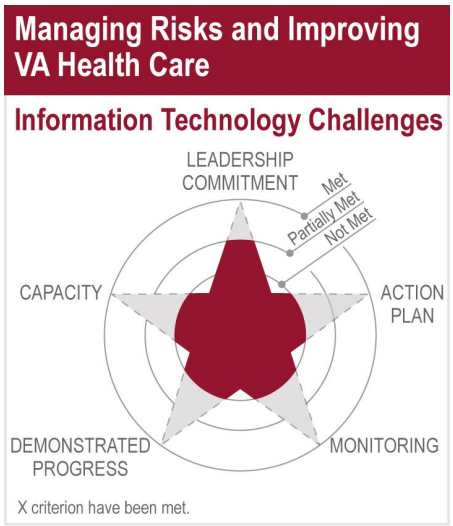
Monitoring

VA has not met the criterion for monitoring its progress in improving oversight and accountability. VA's action plan for this area of concern does not explain how it will ensure that medical facilities are consistently reporting reliable data, which is critical to monitoring actions. We have continued to find instances where VA lacked reliable data to determine whether its medical centers were following policies, which will continue to make it difficult for VA to monitor improved oversight and accountability. For example, in 2015, as part of our review of VA's primary care oversight, we found inaccuracies in VA's data on primary care panel sizes, which are used to help medical centers manage their workload and ensure that veterans receive timely and efficient care. We found that while VA's primary care panel management policy requires facilities to ensure the reliability of their panel size data, it does not assign responsibility for verifying data reliability to regional- or national-level officials or require them to use the data for monitoring purposes. As a result, VA could not be assured that local panel size data were reliable, or whether its medical centers have met VA's goals for efficient, timely, and quality care. We recommended that VA incorporate an oversight process in its primary care panel management policy that assigns responsibility, as appropriate, to regional networks and central office for verifying and monitoring panel sizes.

Demonstrated Progress

VA has not met the criterion for demonstrating progress in addressing weaknesses we identified in its oversight and accountability. We found, as part of our December 2016 report on VA's health care services for women veterans, VA's lack of reliable data meant that it could not ensure medical center compliance with requirements related to the environment of care for women veterans. These requirements include standards for privacy at check-in and interview areas, location of exam rooms, and the presence of privacy curtains in exam and inpatient rooms. We found that only 3 of the 155 instances of noncompliance we observed during on-site inspections of waiting, procedure, and examination areas at six VA medical centers were reported to VA central office. Because VA uses these data to track facility compliance, their accuracy is vital for effective oversight. We recommended that VHA strengthen its environment of care inspections process and VA's oversight of this process by expanding the list of inspection requirements to align with VA's women's health handbook, clarifying the roles and responsibilities of facility-level staff responsible for identifying and addressing areas of noncompliance, and establishing a process to verify the accuracy and completeness of medical centers' self-reported information. Without taking these actions, VA cannot provide reasonable assurance that it is protecting the privacy, safety, and dignity of women veterans when they receive care at VA medical facilities.

Information Technology Challenges



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

In our 2015 high-risk report, we identified limitations in the capacity of VA's existing IT systems, including the outdated, inefficient nature of certain systems and a lack of system interoperability—the ability to exchange and use electronic health information—as contributors to VA's IT challenges related to VA health care. These challenges present risks to the timeliness, quality, and safety of VA health care. VA has partially met our leadership commitment criterion by involving top leadership in this area of concern, but it has not met our four remaining criteria for removing IT challenges from the High-Risk List.

Leadership Commitment

VA has partially met the leadership commitment criterion for addressing IT challenges. Specifically, VA outlined in its action plan a high-level governance structure that designates an official within VA's department-level Office of Information and Technology (OI&T) as responsible for this area of concern. In addition, VA's Chief Information Officer (CIO) has recently initiated an effort to transform the focus and functions of OI&T in response to the Secretary's goal of making VA a more veteran-focused organization. The CIO's transformation strategy, initiated in January 2016, calls for the office to stabilize and streamline processes, mitigate weaknesses highlighted in our assessments, and improve outcomes by institutionalizing a new set of IT management capabilities. As part of this

transformation, in January 2016, the CIO began transitioning the oversight and accountability of IT projects to a new project management process called the veteran-focused integration process, in an effort to streamline its systems development and delivery of new IT capabilities.

The CIO also intends to establish five new functions within OI&T to enable VA to address its IT challenges: (1) the Enterprise Program Management Office, which began initial operations in April 2016 and is intended to serve as OI&T's portfolio management and project tracking organization; (2) account management, led by three account managers responsible for managing the IT needs of VA's major components; (3) quality and compliance, responsible for establishing effective policy governance and standards, and ensuring VA adheres to the policies and standards; (4) data management, intended to improve both service delivery and the veteran experience by engaging with data stewards to ensure the accuracy and security of the information collected by VA; and (5) strategic sourcing, which is expected to be responsible for establishing an approach to working with vendors that can supply solutions to VA's IT requirements. However, VA is in the early stages of implementing these new functions, and it will need to sustain leadership commitment by maintaining OI&T's transformation through the presidential transition.

Capacity

VA has not taken sufficient action to demonstrate it has the capacity to address the IT challenges we identified. VA has extensive IT resources in terms of staff and funding. In fiscal year 2016, VA's IT appropriations were approximately $4.1 billion, and in our August 2016 report on VA's IT management, OI&T reported nearly 7,300 federal employees and approximately 7,800 contractor staff working in support of IT-related functions. However, VA has not demonstrated improvement in several capacity actions, such as establishing specific responsibilities for its new functions, improving collaboration between internal and external stakeholders, and addressing skill gaps. For example, in our August 2016 report, we found that OI&T was still in the process of fully defining the roles and responsibilities of its new organizational units, as of July 2016.

With regard to collaboration, VA designated an account manager for VHA as of May 2016, which has the potential to improve VHA and VA collaboration on IT needs. However, its August 2016 action plan for IT challenges describes plans rather than actions already taken to implement the account management function. In addition, we have repeatedly reported on the importance of VA working with DOD to

achieve electronic health record interoperability. In August 2015, we reported on the status of these interoperability efforts and noted that the departments have engaged in several near-term efforts focused on expanding interoperability between their existing electronic health record systems. However, we were concerned by the lack of outcome-oriented goals and metrics that would more clearly define what VA and DOD aim to achieve from their interoperability efforts. Accordingly, we recommended that the departments establish a time frame for identifying outcome-oriented metrics and define related goals for achieving interoperability.

Finally, in our August 2016 report, we found that while OI&T conducted annual skill gap analyses and developed training courses, and recommended other actions for addressing these gaps, the office had not identified potential gaps that may exist in future years. This led us to recommend that OI&T identify IT skills needed beyond the current fiscal year to assist in identifying future skill gaps. By focusing on the current year, OI&T may not be aware of skill gaps that need to be filled to assure its staff can deliver long-term IT support that contributes to improved services for veterans.

Action Plan

VA has not met the action plan criterion for addressing the IT challenges we identified. VA's action plan for this area provides a descriptive problem statement—reflecting our previously stated concerns—and high-level information about VA-wide IT strategies and initiatives. However, it does not contain a root cause analysis that would help identify and prioritize critical actions and outcomes to address IT challenges. As a result, VA's stated milestones and dates appear unrealistic and disconnected from the challenges identified. For example, VA set a goal of having 50 percent of its active IT projects on budget and on schedule by the end of 2016, but it does not state what supporting actions and processes would be necessary to achieve this ambitious goal. Also, without a root cause analysis, VA cannot be certain this action will address its IT challenges. A significant concern we identified in our August 2015 report on VA's and DOD's interoperability efforts is that the two departments had not identified outcome-oriented goals and metrics that would more clearly define what they aim to achieve from their interoperability efforts and the value and benefits these efforts are intended to yield.

Monitoring

VA has not met the criterion related to monitoring actions to address IT challenges. Without outcome-oriented goals and metrics to measure progress, VA cannot demonstrate that it is effectively monitoring implementation and tracking progress against goals. As we have stressed in our prior work, assessing the performance of a program should include measuring its outcomes in terms of the desired results of products or services. In this case, such outcomes could include improving the quality of health care or clinician satisfaction. Establishing outcome-oriented goals and metrics is essential to determining whether a program is operating as intended and delivering value.

Demonstrated Progress

VA has not met the criterion for demonstrating progress in this area of concern. As with monitoring, without goals and metrics that address a root cause analysis, VA cannot demonstrate progress in effectively managing implementation and is unable to ensure that actions taken are sustained. A key action within the criterion for demonstrated progress is implementing recommendations. We have made several recommendations to VA to address outdated systems such as its scheduling and community care claims processing systems, but VA has not yet implemented these recommendations. For example, in May 2016, we recommended that VA develop a sound plan for modernizing its claims processing system. We found that, due to recent increases in utilization of community care, VA has had difficulty with the timely processing of claims from community providers and the contractors responsible for administering the Veterans Choice Program. VA officials and claims processing staff indicated that IT limitations, manual processes, and staffing challenges had delayed claims processing. The department had implemented interim measures to address some of the system's challenges, but it did not expect to deploy solutions to address all challenges, including those related to IT, until fiscal year 2018 or later.

Inadequate Training for VA Staff

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

When identifying this area of concern in our 2015 high-risk report, we described several gaps in VA's training, as well as burdensome training requirements, that we found in our prior work. Since we issued the 2015 report, VA has expressed its desire to improve the department's standardization and management of training, but has not met any of our criteria for removing this area of concern from the High-Risk List.

Leadership Commitment

VA has not met our criterion for leadership commitment. In its action plan discussing this area of concern, VA described its intention to establish a comprehensive health care training management policy and a mandatory annual training process. However, as of December 2016, VA officials said they had not begun drafting the policy, which would replace an outdated document from 2002 that contains training requirements that are no longer relevant. In addition, with respect to the mandatory annual training process, VA's action plan states that it will set goals that enable VA medical center involvement in training planning, but those goals are not fully articulated in the document. The high-level nature of the descriptions in the action plan and lack of action to update outdated policies and set goals for improving training shows that VA lacks leadership commitment to address the concerns that led to our inclusion of this area in the 2015 high-risk report.

Capacity

VA also has not demonstrated that it has the capacity to address our concerns regarding inadequate training. Since identifying these concerns in our 2015 high-risk report, we have continued to find VA health care training gaps that need to be addressed. VA needs to determine the resources needed, actions required, and systems that need to be established to support improvements in how it manages training.

In our September 2015 report on nurse recruitment and retention, for example, we found that VA did not know whether its medical center staff had sufficient training to support its national initiatives to recruit and retain nurses. As a result, we recommended that VA evaluate the adequacy of these training resources to help ensure the effective recruitment and retention of nurses across VA medical centers. In our December 2016 report on VHA's human resources (HR) capacity, we found that VA's competency assessment tool did not address two of the three personnel systems under which VHA staff may be hired. We recommended that VHA (1) develop a 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 HR staff. 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.

Action Plan

VA also has not met the action plan criterion for this area of concern. In its action plan, VA identified an outdated 2002 policy and a decentralized approach to training as potential root causes of the lack of effective training management and oversight we previously identified. VA did not, however, take the additional steps in its action plan of conducting an analysis to confirm its assumptions. It is also not clear from the action plan whether VA plans to establish clear milestones and metrics to review and measure its progress in addressing the root causes of inadequate training for VA staff.

Monitoring

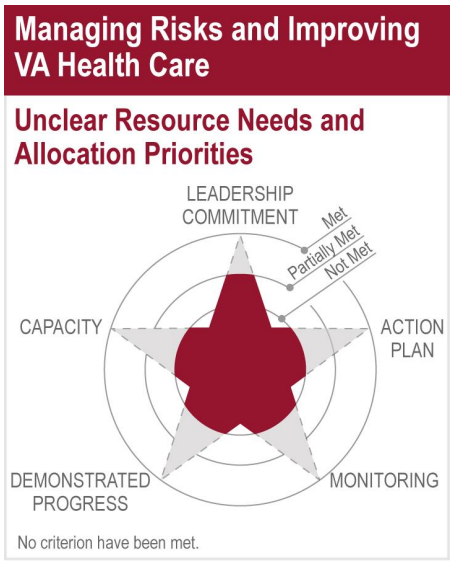
VA has not met the monitoring criterion because, without clear milestones and metrics, VA does not have a means of tracking performance measures and its progress against goals. One key monitoring action is reporting on program progress to senior managers. VA's action plan for

this area states that VHA leadership, including the VHA Under Secretary for Health, will review and approve an annual training plan, but the action plan does not describe what data will support that review, and how it will define progress against goals.

Demonstrated Progress

Because VA's comprehensive training management strategy is in the early stages of development, VA has not met the criterion for demonstrated progress in addressing this high-risk area of concern. Without clear priorities and goals for improving training, an action plan with clear milestones and metrics, and data to support reports on progress, it is not possible for VA to demonstrate progress in effectively addressing this area.

Unclear Resource Needs and Allocation Priorities



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

In our prior work, we reported on gaps in the availability of data needed for VA to identify the resources it needs and ensure they are effectively allocated across VA's health care system. We included this area of concern when we designated VA health care as a high-risk area in 2015. Over the past 2 years, VA's actions have partially met our criterion for leadership commitment but not met the other four criteria for removing this area of concern from the High-Risk List.

Leadership Commitment

VA has partially met our criterion for leadership commitment. In its action plan, VA reported adopting a framework in 2016 called “Managing for Results” to improve its strategic planning and budgeting process. VA anticipates that this framework will better connect VA’s requirements setting process (that forecasts veterans’ needs) with its process for developing the department’s budget. VA states that full implementation of the Managing for Results framework will take place over several budget cycles. However, VA’s planned actions do not make clear how VHA, as the agency managing VA health care, is or will be incorporated into VA’s department-level framework, or how that framework will be communicated and reflected at the regional network and medical center levels. Actions that will assist VA in demonstrating progress in leadership commitment for this area of concern include clarifying the role and responsibilities of VHA in the Managing for Results framework, and ensuring continued oversight and accountability of the framework’s implementation.

Capacity

VA has not met our criterion for capacity for this area of concern. In its action plan, VA names several initiatives that are underway to enable Managing for Results, including establishing a mission-requirements-planning function to supply the ground rules and assumptions necessary to inform cost analysis of major VA initiatives. However, VA does not explain how it intends to establish the mission-requirements-planning function, or what resources may be necessary to establish and maintain that function at the national and local levels. Understanding the resources necessary to establish a new process can help to identify skills gaps and training that VA staff may need to facilitate implementation.

Action Plan

VA has not met our action plan criterion for this area of concern because it has not established performance measures based on a root cause analysis of its unclear resource needs and allocation priorities. VA’s action plan states that the fragmented nature of the department’s data and information management systems limits its ability to integrate priorities, requirements, and solutions. While Managing for Results is intended to facilitate that integration, the action plan does not contain an analysis or explanation for how VA determined that fragmented systems was a cause of unclear resource needs and allocation priorities, or how their chosen framework would address that cause. As a result, VA lacks

reasonable assurance that planned actions are addressing the root cause of the problem.

In our October 2016 report on VHA's strategic planning, we recommended VHA develop strategies with clear milestones. We found that VHA did not consistently develop strategies for regional network and medical center officials to operationalize VA's strategic goals and objectives for VA health care. Among other things, our previous work has shown that strategies should have clearly defined milestones, outline how an organization will hold managers and staff accountable for achieving its goals, and be linked to the day-to-day activities of the organization. In addition, individual strategies should be linked to a specific goal or objective. We found that, without developing adequate strategies to correspond to all of its strategic goals and objectives, VHA's regional networks and medical centers had limited guidance to help them operationalize VA's strategic goals and objectives. Moreover, the day-to-day activities and initiatives developed by VHA regional networks and medical centers may not appropriately align with national goals and objectives for VA health care. Directly aligning strategic goals and their associated strategies is important in assessing an organization's ability to achieve those goals.

Monitoring

VA has not met our criteria for monitoring because its planned actions do not address our previously stated concerns about data quality. VA's planned actions to address unclear resource needs and allocation priorities include incorporating information from VHA's resource allocation model, enrollment projection model, and health care staffing utilization data to improve the accuracy of its resource decisions. However, we have described our concerns about the accuracy of data used for health care resourcing decisions in our 2015 high-risk report, as well as in our June 2016 report examining VA's projected fiscal year 2015 funding gap. In the 2016 report, we found that VA's weaknesses in estimating costs and tracking obligations as use of VA's community care programs increased was one reason for VA's projected funding gap. To better align cost estimates for community care services with associated obligations, we reported that VA was examining options for replacing its outdated financial IT systems, a plan that is reiterated in VA's high-risk action plan, with a projected completion date of fiscal year 2020. However, VA's high-risk action plan states that updating its financial management system will only partly address the capability gap associated with having the systems necessary to extract cost data. VA has made previous, unsuccessful,

attempts to update its financial IT systems. To show progress in monitoring actions, VA will need to ensure data quality and regularly review its status and performance compared to its goals.

Demonstrated Progress

VA has not demonstrated progress in addressing its unclear resource needs and allocation priorities for VA health care because there are weaknesses in its process for evaluating and implementing recommendations—a key action for demonstrating progress. For example, in our September 2016 report on VHA's organizational structure, we found that VA devoted significant time, effort, and funds to generate recommendations for organizational structure changes intended to improve the efficiency of VHA operations. However, the department then either did not act or acted slowly to implement the recommendations. Without robust processes for evaluating and implementing recommendations, there is little assurance that VHA's delivery of health care to the nation's veterans will improve. We recommended that VA develop a process to ensure that it evaluates organizational structure recommendations resulting from internal and external reviews of VHA. This process should include documenting decisions and assigning officials or offices responsibility for ensuring that approved recommendations are implemented. Such a process will help VA ensure that it is using resources efficiently, monitoring and evaluating implementation, and holding officials accountable.

Benefits Achieved by Implementing Our Recommendations

Both Congress and VA have taken action to address our high-risk designation. In July 2015, the VA Budget and Choice Improvement Act directed VA to, among other things, include in its annual budget submission a new appropriations account for medical care delivered by community providers. Beginning in fiscal year 2017, Congress began funding community care through this new Medical Community Care appropriations account. This should allow VA to better ensure that sufficient funds are available for community care in the future.

- In November 2014, we reviewed data that VA collects on veteran suicides. We found that the data were not always complete, accurate, or consistent because the medical centers we reviewed differed in

how they interpreted and used templates for collecting the data. We made six recommendations, including that VA clarify guidance on how to complete these templates and ensure that medical centers have a process to review them. In response, VA took several actions in 2015, including analyzing diagnostic coding practices at medical centers, adding more specific guidance on how to complete the templates, and requiring medical center leadership to review the templates. These actions positioned VA to collect consistent data to better inform its suicide prevention efforts, and we closed all six report recommendations as implemented in fiscal year 2016.

- In July 2015, we reported on VA medical centers' use of root cause analysis—a process used to identify and evaluate the systems or processes that caused an adverse health event, such as a missed or delayed diagnosis. We found that VA medical centers had completed 18 percent fewer root cause analyses in fiscal year 2014 compared to fiscal year 2010. VHA had not analyzed the reasons for the decrease, which could have been due to medical centers using alternative processes. We recommended that VA determine the extent to which medical centers are using alternative processes and collect information on the number and results of those alternative processes. In September 2015, VA developed and fielded a survey to all medical centers to assess the degree they were using alternative processes to address the root causes of adverse events when a root cause analysis is not required. By collecting this information, VA increased its awareness of medical center actions to address the root causes of adverse events.
- For our 2011 review of VA's purchasing, tracking, and reprocessing of expendable medical supplies (e.g., needles) and reusable medical equipment (e.g., endoscopes), we examined VA's requirements as well as VA central office and regional network oversight processes. We found that both the tracking and reprocessing requirements we reviewed were inadequate to help ensure the safety of veterans who receive care at medical centers. We also found that VA central office did not analyze regional network reports on noncompliance with reusable medical equipment policies to inform its oversight. As such, we made four recommendations, including that VA develop and implement an approach for providing standardized training for reprocessing reusable medical equipment; hold VAMCs accountable for implementing the training; and use the regional network reports of noncompliance to take action to improve compliance in areas such as those that occur frequently, pose high risks to veterans' safety, or have not been addressed. In 2015 and 2016, VA took action to require standardized training for reprocessing reusable medical

equipment and oversight of reprocessing activities, issue guidance to clarify regional networks' oversight responsibility, and identify areas of noncompliance that occur frequently and issue guidance to help address this noncompliance. All recommendations from this report have been closed as implemented.

GAO Contacts

For additional information about this high-risk area, contact Debra Draper at (202) 512-7114 or draperd@gao.gov, or Randall Williamson at (202) 512-7114 or williamsonr@gao.gov.

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.

VA Health Care: Improved Monitoring Needed for Effective Oversight of Care for Women Veterans. GAO-17-52. Washington, D.C.: December 2, 2016.

Veterans Health Care: Improvements Needed in Operationalizing Strategic Goals and Objectives. GAO-17-50. Washington, D.C.: October 21, 2016.

VA Health Care: Processes to Evaluate, Implement, and Monitor Organizational Structure Changes Needed. GAO-16-803. Washington, D.C.: September 27, 2016.

Veterans' Health Care: Improved Oversight of Community Care Physicians' Credentials Needed. GAO-16-795. Washington, D.C.: September 19, 2016.

VA IT Management: Organization Is Largely Centralized; Additional Actions Could Improve Human Capital Practices and Systems Development Processes. GAO-16-403. Washington, D.C.: August 17, 2016.

Veterans Affairs: Sustained Management Attention Needed to Address Numerous IT Challenges. GAO-16-762T. Washington, D.C.: June 22, 2016.

VA's Health Care Budget: In Response to a Projected Funding Gap in Fiscal Year 2015, VA Has Made Efforts to Better Manage Future Budgets. GAO-16-584. Washington, D.C.: June 3, 2016.

Veterans Crisis Line: Additional Testing, Monitoring, and Information Needed to Ensure Better Quality Service. GAO-16-373. Washington, D.C.: May 26, 2016.

Veterans' Health Care: Proper Plan Needed to Modernize System for Paying Community Providers. GAO-16-353. Washington, D.C.: May 11, 2016.

VA Health Care: Actions Needed to Improve Newly Enrolled Veterans' Access to Primary Care. GAO-16-328. Washington, D.C.: March 18, 2016.

DOD and VA Health Care: Actions Needed to Help Ensure Appropriate Medication Continuation and Prescribing Practices. GAO-16-158. Washington, D.C.: January 5, 2016.

VA Mental Health: Clearer Guidance on Access Policies and Wait-Time Data Needed. GAO-16-24. Washington, D.C.: October 28, 2015.

VA Primary Care: Improved Oversight Needed to Better Ensure Timely Access and Efficient Delivery of Care. GAO-16-83. Washington, D.C.: October 8, 2015.

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

Electronic Health Records: Outcome-Oriented Metrics and Goals Needed to Gauge DOD's and VA's Progress in Achieving Interoperability. GAO-15-530. Washington, D.C.: August 13, 2015.

Establishing Effective Mechanisms for Sharing and Managing Terrorism-Related Information to Protect the Homeland

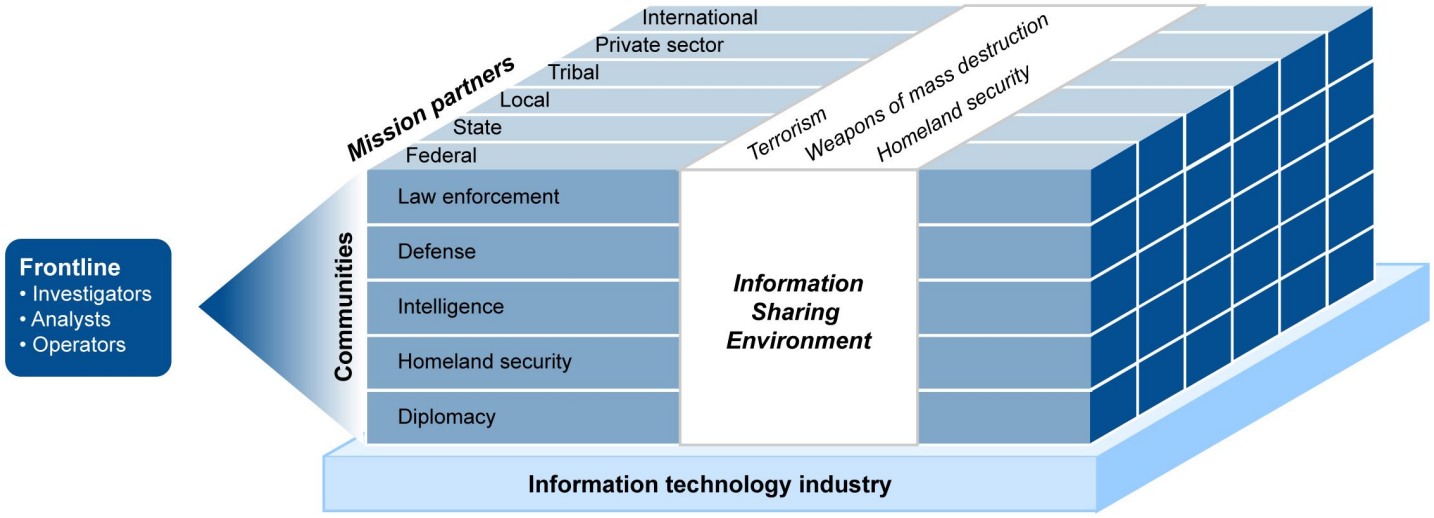
Why Area Was High Risk

Since 2015, the Program Manager (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 the 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. 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 are sustained. If significant problems again arise, we will consider reapplying the high risk designation.

The Program Manager, the individual responsible for planning, overseeing, and managing the ISE, along with the key departments and agencies—the Departments of Homeland Security (DHS), Justice (DOJ), State (State), and (DOD), and the Office of the Director of National

Intelligence (ODNI)—are critical to implementing and sustaining the ISE.[1] 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, the ISE was established in accordance with the Intelligence Reform and Terrorism Prevention Act of 2004 (Intelligence Reform Act), as amended, to facilitate the sharing of terrorism-related information.[2] Figure 22 depicts the relationship between the various stakeholders and disciplines involved with the sharing and safeguarding of terrorism-related information through the ISE.

Figure 22: Elements of the Information Sharing Environment



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

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

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

What GAO Found

The federal government has made significant progress in promoting the sharing of information on terrorist threats, and has met all of our criteria for removal from the High-Risk List. 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 the 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 the ISE.[3] 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 comprehensive framework for managing enterprise architecture to help share and integrate terrorism-related information among multiple stakeholders in the ISE.[4] Specifically, the Project Interoperability initiative includes technical resources and other guidance that promote greater

[3]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.

[4]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.

information system compatibility and performance.[5] 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 the 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 the 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 Information Sharing and Safeguarding. 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 3 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 the 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 the ISE—had been completed. In our 2015 update, we determined that the Program Manager and key departments had

[5]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 information technology (IT) systems to accomplish operational missions. From a technical perspective, interoperability refers to the capability of systems to communicate with one another and to exchange and use information and is achieved developed in part by using common technical standards and definitions to manage information.

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 the 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 the 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 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 11 summarizes the Program Manager's and key departments' and agencies' progress in achieving the action items.

Table 11: 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 the Information Sharing Environment (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 the ISE.	Met[b]	Capacity to resolve risk
Continue to identify technological capabilities and services that can be shared collaboratively within and across the ISE, consistent with a federated architecture approach.	Met[b]	Capacity to resolve risk

Action Items	Action Item Status	High-Risk Category
Demonstrate that initiatives within individual departments are, or will be, leveraged to benefit all relevant federal, state, local, and private security stakeholders participating in the 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 the 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 the ISE.	Met[b]	Action plans that provide corrective measures
Demonstrate that the federal government can show the extent to which sharing has improved under the 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.

Additional Details on What GAO Found

Leadership Commitment

In our 2013 high-risk update, we reported that the federal government had fundamentally met this high-risk criterion—primarily because it had established an interagency policy committee to leverage the efforts of participating departments and agencies. In addition, the Program Manager has continued to update the vision for the ISE as information sharing initiatives have evolved. Further, since 2013, the government has issued and largely executed the Implementation Plan and taken other actions, which demonstrate continued leadership commitment.

With the majority of Implementation Plan priority objectives completed in fiscal year 2016, the Program Manager has updated the vision and led the establishment of new goals to strengthen the ISE. For example, now that terrorism-related information sharing among key federal departments and agencies has matured, the Program Manger is expanding collaboration on information sharing initiatives with state, local, tribal, territorial, and private sector partners. This includes promoting the use of interoperable systems and disseminating best practices for sharing and safeguarding information. According to the Program Manager, this expanded stakeholder engagement is necessary given the increasing overlap of national security and public safety.

Although the future of the ISE after the Implementation Plan is fully executed will depend in part on the policies of the incoming administration, the Program Manager has demonstrated leadership in shifting focus to sustaining the progress achieved in the ISE, while also promoting its expansion to non-federal partners. As the ISE and terrorist threats have continued to evolve, entities aside from the Program Manager will have increased leadership roles. For example, in addition to the key departments and agencies, the Standards Coordinating Council (SCC) and the Criminal Intelligence Coordinating Council (CICC) have

assumed key roles in governing ISE activities.[6] The SCC is the focal point for advancing core interoperability frameworks and standards, and the CICC is a key forum for federal and non-federal entities to develop, implement, and align information sharing platforms, according to the 2016 Information Sharing Environment Annual Report to the Congress.[7] In addition, the SCC and CICC will have key roles in overseeing the three Implementation Plan priority objectives not completed in fiscal year 2016. Updating the vision for the ISE, including the expanded leadership roles for entities like the SCC and CICC, helps ensure terrorism-related information is accessible and identifiable to relevant federal, state, local, private, and foreign partners.

As we reported in 2015, key departments and agencies have also played an increased leadership role by serving as stewards for the priority objectives in the Implementation Plan. For example, DHS led the implementation of the priority objective on fusion centers, which was completed in fiscal year 2015, and has continued to lead efforts in this area as the vision for the ISE evolves. Additionally, departments and agencies have taken various actions to govern their own information sharing activities and to coordinate with the ISE. For example, DHS has used a governance board to serve as the decision-making body for DHS information-sharing issues since 2007. This board has identified information-sharing gaps and has developed a list of key initiatives to help address those gaps. Many of these initiatives—such as those related to safeguarding information—are consistent with established priorities for the ISE.

Capacity

Among other things, the federal government met this high-risk criterion in 2015 by changing its approach to funding information-sharing activities.

[6]The SCC oversees the development of information sharing and safeguarding standards, including technical standards that promote interoperability and data exchanges. Members include industry consortia, standards development organizations, and federal entities, including DHS and the Program Manager. The CICC supports state, local, and tribal law enforcement and homeland security agencies in their ability to develop and share criminal and terrorism-related intelligence and information nationwide. Members include intelligence and law enforcement officials from across all levels of government, including the Program Manager.

[7]The Information Sharing Environment Annual Report to Congress examines the extent to which the mandate in the Intelligence Reform and Terrorism Prevention Act of 2004, as amended— to establish an ISE, and for sharing terrorism-related information in general, —is being implemented. See 6 U.S.C. § 485(h).

Specifically, key departments are funding ISE-related activities as part of mission activities and operations instead of seeking separate funds. Additionally, the Implementation Plan defines the fundamental technological capabilities and services for advancing the ISE. The Program Manager and key departments and agencies also satisfied this high-risk criterion through their progress in identifying technological capabilities and services that can be shared collaboratively within and across the ISE, consistent with a federated architecture approach.[8]

As we reported in 2015, regarding the government's approach to funding, senior officials in each key department or agency explained that any incremental costs related to implementing the ISE continue to be embedded within each department's mission activities and operations and do not require separate funding. The Program Manager and department and agency officials also noted that the Implementation Plan assigned priority objectives to those departments and agencies whose missions most align with the initiatives under each objective, thereby helping to ensure that the activities received funding.

The Program Manager and key departments and agencies have also defined and established technological capabilities and services which improve information sharing. For example, a key initiative to develop capacity for the ISE is the Federal Identity Credential and Access Management (FICAM) program. FICAM's goal is to control access to sensitive information on computer networks while also providing authorized users the information they need. FICAM comprises, among other things, the technologies and services used to create trusted digital credentials that can be used to verify and provide individuals authorized access to an agency's information. This helps ensure that information can be shared without the threat of security breaches. Seven specific milestones associated with the Implementation Plan's FICAM priority objective were completed by the end of fiscal year 2016. For example, the working group charged with implementing this priority objective developed various documents, such as baseline credentialing assessments for unclassified and classified security domains, and digital policy governance guidance. Key departments, including DHS and DOJ, have begun to adopt these standards, an important step in developing federal

[8]Under a federated approach, the architecture consists of a family of coherent but distinct member architectures that conform to an overarching corporate or parent architecture approach. As such, member architectures (e.g., component, subordinate, or subsidiary architectures) are substantially autonomous, but they also inherit certain rules, policies, procedures, and services from the parent architectures

capabilities to establish individual accountability and facilitate the appropriate level of information access.

There are multiple priority objectives in the Implementation Plan that further the capacity to identify and share technical capabilities within and across the ISE. For instance, the priority objective on discovering and accessing information addresses the ability to discover that information exists and retrieve it. According to the results of a 2014 questionnaire administered by the Office of the Program Manager, over 80 percent of agencies reported improvements over the previous year in their ability to discover, access, and retrieve information necessary to accomplish their missions. As of December 2016, the remaining milestones associated with this priority objective were expected to be completed by fiscal year 2019, according to the Program Manager and key department documentation.

The Implementation Plan also contains an objective dedicated to standards-based acquisition, which seeks to ensure that future products and services are interoperable and can easily exchange and interpret data. The goal of this objective is to develop common technical standards to guide all departments and agencies when they acquire new technologies. The five milestones contained under this objective were completed in fiscal year 2016, including developing a standards handbook. The Implementation Plan also identifies capacity-related activities consistent with a federated architecture approach, such as identifying technological capabilities and services to be used across communities of interest. For example, ISE stakeholders developed a repository of capabilities and services as part of the priority objective on interoperability. These knowledge resources include a web-based collection of tools, best practices, and frameworks for improving information interoperability.

Action Plan

The government has met this high-risk criterion by developing and largely executing the Implementation Plan, leveraging information-sharing initiatives across the government, and improving enterprise architecture management as recommended in our 2011 report on the ISE.[9] Developing and executing the Implementation Plan were important steps

[9]GAO, *Information Sharing Environment: Better Road Map Needed to Guide Implementation and Investments*, GAO-11-455 (Washington, D.C.: July 21, 2011).

for the ISE, and as we have reported, are characteristics that can enhance the usefulness of national strategies.[10] Specifically, the Program Manager and key departments and agencies generally agreed with the plan's actions and time frames to advance the ISE. Further, the Program Manager has demonstrated that ISE stakeholders have taken steps to implement concepts promoted by the Project Interoperability initiative, including those contained in the Information Interoperability Framework (I2F).

In addition to identifying key initiatives—such as those intended to control information access, safeguard information, increase a user's ability to search for relevant information, and increase interoperability among data systems—the Implementation Plan seeks to address gaps in information sharing that ISE stakeholders identified and that we highlighted in our 2013 and 2015 high-risk reports. For example, the plan establishes a priority objective dedicated to information sharing with the private sector. This objective seeks to ensure that processes and procedures are in place for identifying threats, including those related to cybersecurity and to critical infrastructure—such as financial institutions, commercial facilities, and energy production and transmission facilities, among others. The Program Manger and key departments and agencies reached agreement on and completed all four milestones associated with the private sector priority objective by the end of fiscal year 2016. Among other things, this effort is intended to make appropriate fusion center products accessible to critical infrastructure owners and operators, and identify systems tools that provide near real time situational awareness of critical infrastructure vulnerabilities across the law enforcement and intelligence communities.

As we reported in 2015, initiatives within individual departments have been leveraged to benefit relevant federal, state, local, and private security stakeholders participating in the ISE. For example, the Federal Bureau of Investigation's (FBI) eGuardian system allows law enforcement agencies to submit suspicious activity reports into a single system that is accessible by thousands of law enforcement personnel.[11] In a 2014 survey administered by the Program Manager, numerous agencies also

[10]GAO, *Combating Terrorism: Evaluation of Selected Characteristics in National Strategies Related to Terrorism*, GAO-04-408T (Washington, D.C.: Feb. 3, 2004).

[11]See GAO, *Information Sharing: Additional Actions Could Help Ensure That Efforts to Share Terrorism-Related Suspicious Activity Reports Are Effective* (Washington, D.C: Mar. 13, 2013).

mentioned that they were leveraging the fusion center information sharing initiative. Specifically, all agencies that answered the 2014 question related to fusion center progress reported satisfaction with improvements made in the last year to enhance the capabilities and performance of the national network of fusion centers. This included improving how threat and encounter information is shared between the federal government and state, local, and private partners. In November 2014, we reported on federal efforts to improve fusion center capabilities and results.[12]

Additionally, in April 2013, we reported that fusion centers, along with other field-based information sharing entities, provided a variety of analytical activities that resulted in benefits, such as intelligence products.[13] We also recommended that DHS, DOJ, and the Office of National Drug Control Policy (ONDCP) collaborate to (1) identify practices that could enhance the coordination and reduce unnecessary overlap across field-based information sharing entities, and (2) develop a mechanism that will allow them to hold field-based information-sharing entities accountable for coordinating with each other. Since our report DHS, DOJ, and ONDCP have made significant progress toward addressing our recommendations. Specifically, the three agencies have taken the necessary steps to assess the extent to which practices that can enhance coordination are being implemented at fusion centers and other field-based information sharing entities. They have also developed a mechanism to hold fusion centers and other field-based information sharing entities accountable for coordinating their analytical and investigative activities. However, the FBI has not taken action on our recommendations for the field-based information sharing entities it leads and, as a result, the recommendations from our report have not been fully addressed.

Since 2015, the Program Manager has also made progress in action planning by promoting the Project Interoperability initiative, which has improved its enterprise architecture management capability and helped guide the selection of specific projects to help advance the ISE. For example, the Implementation Plan includes priority objectives and milestones associated with establishing aspects of the ISE architecture.

[12]GAO, *Information Sharing: DHS Is Assessing Fusion Center Capabilities and Results, but Needs to More Accurately Account For Federal Funding Provided to Centers,* GAO-15-155 (Washington, D.C.: Nov. 4, 2014).

[13]GAO, *Information Sharing: Agencies Could Better Coordinate to Reduce Overlap in Field-Based Activities,* GAO-13-471 (Washington, D.C.: Apr. 4, 2013).

Such milestones include developing Project Interoperability and the I2F, key elements intended to help link systems across departments to enable information sharing (i.e., interoperability). For instance, the I2F calls for a common profile for achieving interoperability among systems, which among other things, can enable a user to access different departments' or agencies' databases from a single workstation. In March 2014, the Program Manager issued an initial version of I2F to guide the implementation of information-sharing capabilities. In 2016, the Program Manager identified several ongoing initiatives that implemented I2F concepts. For example, officials from the Office of the Program Manager provided documentation that illustrated how I2F was used and stated that the framework helped:

- identify security specifications for successfully exchanging data across various maritime partners to share information via the Maritime ISE, including services to publish and search for information about a ship's location;
- create a virtual nationwide event deconfliction system to alert affected agencies or officers of potential conflicts between officers who are conducting law enforcement operations at the same time and in close proximity; and
- bridge data standards to enhance geospatial exchange capabilities (e.g., data embedded in maps) among mission partners, such as homeland security, law enforcement, emergency management, and public safety.

Furthermore, in December 2014, the Program Manager issued Version 1.0 of the data tagging functional requirements document to help develop information discovery and access capabilities.[14] Among other documents, this functional requirements document served to increase enterprise architecture management capabilities. Moreover, the Program Manager's 2015 and 2016 Annual Reports to Congress identified progress made in achieving greater systems interoperability. For example, some of the nation's sensitive but unclassified networks (e.g., Homeland Security Information Network, Regional Information Sharing Systems, Law Enforcement Enterprise Portal, and Intelink-U) are now interoperable,

[14]Data "tags" are metadata—"data about data" applied to resources, and are critical to the ability to both locate information and enable automated access control decisions. This document defines the minimum functional requirements of data tagging standards needed to facilitate interoperable Query and Discovery, Access Control, Correlation, Audit, and Records Management capabilities across federal networks and security domains, and sets forth a conceptual framework for interoperable data tagging through the introduction of "tag classes."

providing an array of services and information through a simplified sign-on using existing credentials. The Program Manager also stated that ongoing efforts to improve information sharing have informed future architecture efforts, including guidance associated with Project Interoperability 2.0, which is to provide the framework for building the next generation of the ISE.

The Program Manager has also made progress in using the Implementation Plan to hold key departments and entities accountable over time for executing priority objectives and milestones associated with establishing aspects of the ISE architecture. Specifically, the Implementation Plan established architecture-related milestones and time frames to track and monitor progress. Importantly, the Program Manager and key stakeholders collaborated to create the plan and generally agreed with its timeframes and delegation of responsibilities to advance the ISE. In September 2015 and July 2016, the Program Manager updated us on the status of executing these priority objectives, including milestones with revised target dates and new entities that will assume responsibilities to complete the priority objectives, thereby demonstrating that the priority objectives and milestones are monitored over time. The Program Manager has not yet demonstrated outcomes associated with all of the priority objectives because several milestones are not complete. We will continue to monitor these enterprise architecture activities to ensure that they are sustained over time.

Monitoring

The Program Manager and key departments and agencies have made sufficient progress to meet this high-risk criterion of monitoring by (1) implementing initiatives that show the extent to which information sharing has improved under the ISE and (2) continuing to develop metrics and processes to measure results achieved, both from individual projects and activities, as well as from the overall ISE. Developing effective performance metrics for information sharing initiatives is challenging given the complexity of information sharing, and the Program Manger acknowledged in 2016 that additional work is needed in this area. However, considering the collective efforts of the Program Manager's performance management framework—including the Implementation Plan—key departments and agencies, and the ongoing Information Sharing Measure Development Pilot, we consider this high-risk criterion to be met.

The Program Manager has created a performance management framework to measure the performance of key departments and agencies in completing ISE initiatives, many of which are included in the Implementation Plan. At a high level, performance is monitored by executing the Implementation Plan. For example, there are clear linkages between the plan's 16 priority objectives, which in turn are linked to the 5 overarching goals in the 2012 National Strategy for Information Sharing and Safeguarding: collective action, common standards, shared services, safeguarding, and privacy. In this context, achieving milestones are a means of measuring progress toward the overarching strategic goals. For example, the 4 completed milestones under the governance priority objective helped advance all 5 strategic goals by identifying governance best practices and establishing a governance roadmap to implement information sharing initiatives. Table 12 illustrates the alignment between Implementation Plan priority objectives and national strategic goals.

Table 12: Implementation Plan Priority Objectives Aligned with National Strategy for Information Sharing and Safeguarding Goals

Priority objectives	Collective action	Common standards	Shared services	Safeguarding	Privacy
Governance	aligned	aligned	aligned	aligned	aligned
Agreements	Not aligned	Not aligned	aligned	aligned	aligned
Data tagging	Not aligned	aligned	aligned	aligned	aligned
Federal Identity, Credential, and Access Management	Not aligned	aligned	Not aligned	aligned	Not aligned
Safeguarding	aligned	Not aligned	Not aligned	aligned	Not aligned
Interoperability	Not aligned	aligned	aligned	Not aligned	Not aligned
Training	aligned	aligned	aligned	Not aligned	aligned
Discovery and Access	aligned	aligned	aligned	aligned	aligned
Private sector	aligned	Not aligned	aligned	Not aligned	Not aligned
Reference architecture	Not aligned	aligned	aligned	Not aligned	Not aligned
Shared services	Not aligned	Not aligned	aligned	Not aligned	Not aligned
Standards-based acquisition	Not aligned	aligned	aligned	Not aligned	Not aligned
Foreign partner sharing	aligned	Not aligned	Not aligned	Not aligned	aligned
Requests for information, and Alerts-Warnings-Notifications	aligned	Not aligned	Not aligned	Not aligned	Not aligned
Nationwide suspicious activity reporting initiative	aligned	Not aligned	Not aligned	Not aligned	Not aligned
Fusion centers	aligned	Not aligned	aligned	Not aligned	Not aligned

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

The performance management framework also consists of several measures, including the Performance Assessment Questionnaire. For

example, through the annual questionnaire, the Program Manager measured results from key ISE initiatives, such as the extent that information gathered from international partners is integrated into the process the government uses to screen individuals for potential terrorist threats. In 2016, the Program Manger reported that his office was revising the format of the questionnaire, in part because the Implementation Plan was mostly complete, but that collecting certain performance data would continue.

The Program Manager also developed a set of homeland security scenarios in 2011 to assist key departments in planning for and executing the ISE's initiatives. The scenarios were designed to demonstrate information-sharing capabilities relevant to an agency's mission, as well as to allow the Program Manager and departments to determine if the ISE is achieving desired capabilities. For example, 1 scenario described how departments need to mature their capabilities over the next 7 years such that an analyst does not have to manually check numerous databases to find information related to a suspicious activity, but rather can conduct 1 search of linked databases from a single point of entry. Similarly, in 2016, the Program Manger referred to the eight "mission stories" documented on the Office of the Program Manager's website as qualitative indicators of improved information sharing over time.

The mission stories include issue areas such as cybersecurity, counterterrorism, domain awareness, and interoperability, and according to the Program Manager, represent causal outcomes of ISE initiatives and are evidence of improved decision-making capability. Although the mission story information does not encompass quantitative metrics, it provides means to demonstrate the extent to which information sharing has improved, and results have been achieved through individual projects. For example, in the cybersecurity issue area, the Program Manager partnered with the International Association of Chiefs of Police, among other entities, to create the Law Enforcement Cyber Center, an online portal to facilitate information sharing about cyber-crime investigations.

Furthermore, the Program Manger and key departments have developed performance metrics for specific priority objectives in the Implementation Plan to demonstrate the extent to which information sharing has improved under the ISE. For example, the Program Manager led an initiative to measure the progress 47 agencies made implementing information safeguarding measures between 2011 and 2016. Specifically, the Program Manger solicited agency responses to 16 questionnaires that

measured agency implementation of policy recommendations related to removable media, online identity management, insider threat programs, access control, and enterprise audit. The results of this program—which directly links to the Implementation Plan's priority objective on information safeguarding—were used to inform executive and legislative leadership of the government's progress in simultaneously sharing and protecting sensitive terrorism-related information, and provided a quantitative measure of results achieved

Separately, DHS and other stakeholders have been collecting performance data on fusion center capabilities since 2011, which are assessed and reported in annual reports. DHS uses an online self-assessment survey, which in 2015 included 128 questions and 10 data tables, to collect information from individual fusion centers. The results provide various output and outcome measures related to such areas as information gathering, analysis, and dissemination, and enhanced threat and domain awareness. The Program Manager's and DHS's efforts to establish performance metrics for areas such as information safeguarding and fusion centers are other means to help monitor and gain insight into the overall state of the ISE.

In addition, in October 2016, the Program Manager and DHS initiated a pilot to help measure and monitor the overall performance of information sharing across the ISE. Specifically, the Information Sharing Measure Development Pilot intends to develop a new set of information sharing measures by analyzing how information is exchanged in various networks. According to DHS officials, algorithms will be used to calculate an Information Sharing Index that can quantify information sharing efficiencies across organizations, agencies, and departments regardless of information topic or use. The pilot project, scheduled for completion by the end of fiscal year 2017, will focus in part on fusion center information sharing. According to the Program Manager and DHS officials, the resulting metrics will then be applied more broadly across the ISE. The Program Manager and DHS have compiled a detailed Memorandum of Agreement, which clearly defines the project's scope, objectives, time frames, and deliverables. If completed and broadly implemented, this performance measures initiative could be a valuable tool to assess and improve information sharing across the ISE.

Demonstrated progress

The Program Manager and key departments and agencies have met this criterion primarily by using the Implementation Plan to track progress in implementing priority objectives and in substantially achieving the overall ISE. The Implementation Plan assigns stewards to each priority objective—in most cases, a senior official within a key department or agency—who have primary responsibility for coordinating, integrating, and synchronizing activities to achieve the priority objectives within the time frames established. The steward is responsible for ensuring that participating agencies communicate and collaborate to complete the objective, while also raising to senior management any issues that might hinder progress. Stewards are to communicate these issues via the Information Sharing Council (ISC), a body consisting of senior officials from a variety of federal departments and agencies.[15]

The Program Manager stated that 13 of the 16 priority objectives were completed by the end of fiscal year 2016. The Program Manager transferred the remaining 3 objectives—Data Tagging, FICAM, and Discovery and Access—to other entities to implement through fiscal year 2019. Table 13 describes the 13 completed Implementation Plan priority objectives and examples of demonstrated progress. For example, work on several priority objectives—such as reference architecture and standards-based acquisitions—resulted in concrete guidance based on best practices that was then made available for stakeholders to use in their own organizations. The interoperability objective resulted in products, such as the I2F framework, that were used by multiple entities to improve terrorism-related information sharing across different information systems. Among other things, the fusion center and private sector priority objectives resulted in new processes that facilitated greater and more secure information sharing with critical infrastructure owners and operators.

[15]The ISC was established in 2004 to advise the President and Program Manager on policies, procedures, guidelines, and standards related to the ISE, and to ensure proper coordination among stakeholders. See 6 U.S.C. § 485(g); Exec. Order No. 13,356, Strengthening the Sharing of Terrorism Information to Protect Americans (Aug. 27, 2004), 69 Fed. Reg. 53,599 (Sept. 1, 2004). In 2009, the ISC was subsumed by the Information Sharing and Access Interagency Policy Committee (ISA IPC), an entity within the Executive Office of the President. In 2016, the ISC was reconstituted and replaced the ISA IPC in terms of overseeing the ISE.

Table 13: Descriptions of Completed Implementation Plan Priority Objectives and Examples of Demonstrated Progress

Priority objectives	Descriptions	Examples of demonstrated progress
Governance	Align information sharing and safeguarding governance to foster better decision making, performance, accountability, and implementation of strategic goals.	• Identified best practices and common governance requirements
Agreements	Develop guidelines for information sharing and safeguarding agreements to address common requirements while allowing flexibility to meet mission needs.	• Created a framework of recommendations for streamlining information sharing and access agreements.
Safeguarding	Implement safeguarding capabilities to support information sharing.	• Convened a working group to determine safeguarding priorities, and developed metrics to measure implementation.
Interoperability	Define and adopt baseline capabilities and common requirements to enable data, service, and network interoperability.	• Developed and implemented the Interoperability Framework (I2F)
Training	Provide information sharing, safeguarding, and handling training to appropriate stakeholders using a common curriculum tailored to promote consistent yet flexible and trusted processes.	• Developed and posted core awareness training to Program Manager's website.
Private sector	Establish information sharing processes and sector-specific protocols with private sector partners to improve information quality and timeliness and secure the nation's infrastructure.	• Made appropriate fusion center products accessible to critical infrastructure owners and operators.
Reference architecture	Develop a reference architecture to support a consistent approach to data discovery and correlation across disparate datasets.	• Published reference architecture document and other tools and guidance.
Shared services	Implement the recommendations and activities of the Federal Information Technology Shared Services Strategy among appropriate stakeholders to facilitate adoption of shared services.	• Implemented program for shared service offerings across the federal government.
Standards-based acquisition	Refine processes enabling standards-based acquisitions among departments and agencies, standards bodies, and vendors to promote interoperable products and services.	• Developed and published "Acquisitions Playbook" to provide guidance to departments, agencies, and other entities.
Foreign partner sharing	Promote adherence to existing interagency processes to coordinate information sharing initiatives with foreign partners, as well as adopt and apply necessary guidelines to ensure consistency when sharing and safeguarding information.	• Catalogued existing agreement templates and models to guide foreign partner sharing.
Requests for information, and Alerts-Warnings-Notifications	Create a common process across all levels of government for Requests for Information (RFIs) to enable timely receipt and dissemination of information and appropriate response. Create a common process across all levels of government for Alerts, Warnings, and Notifications (AWN) to enable timely receipt and dissemination of information and appropriate response.	• Analyzed RFI terminology and derived best practices and recommendations for improvements. • Working group issued AWN Report of Findings.

Priority objectives	Descriptions	Examples of demonstrated progress
Nationwide suspicious activity reporting initiative	Complete the implementation of the Nationwide Suspicious Activity Reporting (SAR) Initiative programs while expanding training and outreach beyond law enforcement to the rest of the public safety community.	• Refined and enhanced SAR analysis tools, and secured funding for related training materials.
Fusion centers	Achieve the four Critical Operational Capabilities, four Enabling Capabilities, and other prioritized objectives across the National Network of Fusion Centers to help them effectively and lawfully execute their role as a focal point within the state and local environment for receiving, analyzing, gathering, and sharing threat-related information.	• Ensured appropriate federal analytic products are posted, shared, and cataloged within DHS's secure information network.

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

Progress had also been made in the three priority objectives that were still in the process of being implemented at the end of fiscal year 2016 (see table 14). The Program Manager and relevant stakeholders noted additional work needed to fully advance these areas:

Table 14: Descriptions of Remaining Implementation Plan Priority Objectives, Examples of Demonstrated Progress, and What Remains to be Done

Priority objectives	Descriptions	Examples of demonstrated progress	What remains to be done
Data tagging	Adopt data standards to facilitate federated discovery, access, correlation, and monitoring across federal networks and security domains.	• Issued document that defines data tagging functional requirements.	• Implement pilot projects; begin tagging new data and retroactively tag legacy data.
Federal Identity, Credential, and Access Management (FICAM)	Extend and implement the FICAM Roadmap across all security domains.	• Developed and published a FICAM implementation plan.	• Implement credentialing and access framework for Top Secret, Secret, and Unclassified information systems.
Discovery and Access	Define and implement common processes and standards to support automated policy-based discovery and access decisions.	• Identified requirements for automated discovery and access decisions.	• Develop and issue government-wide policy on discovery, and pilot implementation.

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

To track and monitor progress on individual projects to advance the ISE, personnel within the Office of the Program Manager coordinate with each priority objective steward or working group on implementation progress. The Program Manager's staff and managers also have a process to assess this progress and make decisions about the status of priority objectives and milestones. For example, the Office of the Program Manager provided us documentation from September 2015 to July 2016 that clearly documented the status of all priority objectives and milestones. Among other information, these tracking documents detailed

whether milestones were completed, on track, needed attention, or deleted, along with due dates.

The Program Manger reported that his staff request documentation from stewards—such as white papers, emails, project completion notifications, and formal memorandums—to prove that milestones are complete. In this manner, over time, the Program Manager and key departments track milestones and adjust project baselines as needed. The status of modifying milestones was documented in regular priority objective and milestone updates. For instance, in cases where milestones were added, such as under the Data Tagging and FICAM priority objectives, the Program Manger noted that the new milestones were not creating additional tasks. Rather, the new milestones were written at a finer level of detail, which allowed departments and agencies to demonstrate incremental progress that was not visible under the original milestones. Milestones were deleted if stewards and stakeholders agreed that the milestones were no longer relevant to accomplishing priority objectives. The Program Manager and officials from key departments and agencies generally agreed that the Implementation Plan and process used to track and adjust priority objectives and milestones were effective, and we reviewed documentation that justified the status determinations for several milestones.

Overall, the Program Manager and key departments have demonstrated progress in advancing the ISE by using processes to track and assess the status of priority objectives and milestones, and to make adjustments if needed. The majority of milestones were met within the given timeframes of the Implementation Plan, which enabled the work of the ISE to move forward.

GAO Contact

For additional information about this high-risk area, contact Diana Maurer at (202) 512-9627, or maurerd@gao.gov.

Related GAO Products

Information Sharing: DHS Is Assessing Fusion Center Capabilities and Results, but Needs to More Accurately Account For Federal Funding Provided to Centers. GAO-15-155. Washington, D.C.: November 4, 2014.

Maritime Critical Infrastructure Protection: DHS Needs to Better Address Port Cybersecurity. GAO-14-459. Washington, D.C.: June 5, 2014.

DHS Intelligence Analysis: Additional Actions Needed to Address Analytic Priorities and Workforce Challenges. GAO-14-397. Washington, D.C.: June 4, 2014.

Intelligence, Surveillance, and Reconnaissance: DOD Has Taken Steps to Improve Data Management, but Key Guidance Is Incomplete. GAO-13-398SU. Washington, D.C.: May 8, 2013.

Intelligence, Surveillance, and Reconnaissance: DOD Has Partially Implemented GAO's Recommendations to Enhance Intelligence Information Sharing. GAO-13-440SU. Washington, D.C.: April 26, 2013.

Information Sharing: Agencies Could Better Coordinate to Reduce Overlap in Field-Based Activities. GAO-13-471. Washington, D.C.: April 4, 2013.

Information Sharing: Additional Actions Could Help Ensure That Efforts to Share Terrorism-Related Suspicious Activity Reports Are Effective. GAO-13-233. Washington, D.C: March 13, 2013.

Terrorist Watchlist: Routinely Assessing Impacts of Agency Actions since the December 25, 2009, Attempted Attack Could Help Inform Future Efforts. GAO-12-476. Washington, D.C.: May 31, 2012.

Information Sharing Environment: Better Road Map Needed to Guide Implementation and Investments. GAO-11-455. Washington, D.C.: July 21, 2011.

Appendix III: GAO's 2017 High-Risk List

The areas on our 2017 High-Risk List are shown in table 15.

Table 15: 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 Native American 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.

Appendix IV: Accessible Data

Data Tables

Data for Figure 1 Figure 1: Elements of the Information Sharing Environment

Illustration showing mission partners affected by: terrorism, weapons of mass destruction and homeland security) and communities of government sharing information on these matters.

Communities (assisting frontline investigators, analysts and operators)

- Law Enforcement
- Defense
- Intelligence
- Homeland Security
- Diplomacy

Mission Partners

- Federal
- State
- Local
- Tribal
- Private Sector
- Internationl

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

	Department Defense	Other federal agencies	Department of Energy
Dollars in billions	63	12	372
Percent	14%	3%	83%

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

Fiscal Year	Environmental Management Liability	Environmental Management Spending
2011	0	5.7
2012	5.7	5.7
2013	11.4	5.7
2014	17.1	5.8
2015	22.9	5.9
2016	28.8	6.2

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

Agency	Eligible by 2020
AGRICULT	37.1%
COMMERCE	31.6%
DEFENSE	33.1%
EDUCATE	36.9%
ENERGY	39.3%
HHS	35.1%
HOMELAND	25.1%
HUD	44.8%
JUSTICE	32.4%
LABOR	34.8%
STATE	32.9%
INTERIOR	39.4%
TREASURY	40.7%
TRANSPOR	39.5%
VET_ADMN	37.3%
GSA	36.9%
NASA	42.8%
NSF	42.5%
NRC	41.2%
OPM	29.9%
SBA	43.6%
SSA	31.5%
AID	29.8%

Agency	Eligible by 2020
EPA	44.7%
NON-CFO ACT AGENCIES	36.0%

Data Table for Figure 9: Projected Cumulative Highway Trust Fund Balance, Fiscal Years 2021 through 2026 (dollars in billions)

Fiscal Year	Cumulative Shortfall in Highway Trust Fund
2021	-2
2022	-18
2023	-37
2024	-59
2025	-82
2026	-107

Data Table for Figure 10: Comparison of Selected Investments' April 2015 CIO Ratings to GAO's Assessments

Low	Medium	High
10	28	23
5	8	9
0	8	4

Data Table for 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

Department	IT Dashboard	GAO
Commerce	93	51
HHS	88	78
Education	79	67
Treasury	64	35
DHS	57	61
DOT	8	25
DOD	8	63

Data Table for 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 (dollars in billions)

	Progress made	Target
Implementation of GAO's prior recommendations	46 percent	80 percent
Incremental development	77 percent	80 percent
Achievement of planned savings	$1.4 billion	≥$6 billion
	$2.8 billion	≥$5.4 billion

Data Table for Figure 13: Total Reported U.S. Environmental Liability, Fiscal Year 2016

	Department Defense	Other federal agencies	Department of Energy
Dollars in billions	63	12	372
Percent	14%	3%	83%

Data Table for Figure 14: Total Reported Department of Energy Environmental Liability, Fiscal Years 2000 to 2016

Fiscal Year	Dollars in Billions
2000	234
2001	238
2002	210
2003	183
2004	182
2005	190
2006	230
2007	264
2008	266
2009	268
2010	250
2011	251
2012	268
2013	280
2014	300
2015	340

Fiscal Year	Dollars in Billions
2016	372

Data Table for Figure 15: Department of Energy's Office of Environmental Management's Annual Spending and Growing Environmental Liability

Fiscal Year	Environmental Management Liability	Environmental Management Spending
2011	0	5.7
2012	5.7	5.7
2013	11.4	5.7
2014	17.1	5.8
2015	22.9	5.9
2016	28.8	6.2

Data Table for Figure 16: Total Reported Department of Defense Environmental Liability, Fiscal Years 2000 to 2016

Fiscal Year	Dollars in Billions
2000	63
2001	63
2002	59
2003	62
2004	64
2005	65
2006	70
2007	73
2008	71
2009	66
2010	63
2011	65
2012	63
2013	58
2014	59
2015	60
2016	63

Data Table for Figure 17: Change in Reported Environmental Liability for Selected Agencies, Fiscal Years 2000 to 2016

	Fiscal Year 2000	Fiscal Year 2016
USDA	0	0.196
DOI	0.269	0.83
DOT	1.01	1.102
VA	0.24	0.989
NASA	1.021	1.599

Data Table for Figure 18: Comparison of the Cost Performance of DOD's 2011-2015 Portfolios

1-uear comparison (<2% growth)

Fiscal Year	Percentage of programs that meet the metric	Percent of programs that do not meet the metric
2011	60	40
2012	85	15
2013	76	24
2014	69	31
2015	76	24

5-year comparison (<10% growth

Fiscal Year	Percentage of programs that meet the metric	Percent of programs that do not meet the metric
2011	47	53
2012	56	44
2013	55	45
2014	NA	NA
2015	72	28

First full estimate comparison (<15% growth)

Fiscal Year	Percentage of programs that meet the metric	Percent of programs that do not meet the metric
2011	43	57
2012	48	52
2013	44	56
2014	44	56
2015	47	53

Data Table for Figure 19: Growth Trends in Total Medicaid Spending by Eligibility Group (dollars in billions)

Fiscal Year	Aged	Blind/disabled	Children	Adults	Newly eligible adults
2005	70.2608	131.001	50.5993	35.6869	0
2006	68.2203	128.491	53.1666	36.6134	0
2007	68.636	137.801	57.7879	39.8397	0
2008	72.4217	145.616	60.2855	43.1312	0
2009	74.6432	158.194	66.4907	49.366	0
2010	76.434	167.611	72.1236	55.3351	0
2011	79.2896	177.142	77.7799	62.3549	0
2012	79.8539	178.649	76.8674	62.7102	0
2013	80.9562	191.667	81.4276	67.5664	0
2014	81.6604	192.118	86.5257	73.6121	23.8622
2015	86.51	202.618	90.5841	77.6133	58.0329
2016	93.1188	213.651	95.0915	82.1841	62.27
2017	100.116	224.103	100.524	87.6846	59.75
2018	107.634	236.049	106.997	93.5089	63.87
2019	116.07	249.937	114.265	99.5074	67.95
2020	124.833	264.995	121.72	105.623	72.02
2021	134.301	281.228	129.591	112.127	76.29
2022	144.53	298.335	137.767	118.693	80.81
2023	155.687	316.605	146.291	125.44	85.59
2024	167.738	336.17	155.151	132.56	90.61

Data Table for Figure 20: Medicaid Expenditures for Long-Term Services and Supports, Fiscal Years 1994-2014

Fiscal Year	Institutional LTSS spending (in billions)	Home and community-based services spending (in billions)
1994	43.0358	8.39362
1995	46.534	10.3494
1996	46.7032	11.1959
1997	48.3209	15.0576
1998	49.766	16.6924
1999	51.8422	18.5825
2000	55.2519	20.7783
2001	58.9258	25.2785

Fiscal Year	Institutional LTSS spending (in billions)	Home and community-based services spending (in billions)
2002	65.5612	28.56
2003	63.8955	31.9253
2004	66.2415	36.4484
2005	67.6802	39.3281
2006	67.4846	42.888
2007	66.4519	46.7021
2008	69.955	53.5648
2009	71.8957	59.4339
2010	72.6066	66.5741
2011	71.1292	67.7429
2012	71.7526	69.5374
2013	71.1018	74.8975
2014	71.2202	80.6499

Data Table for Figure 21: PBGC's Net Financial Position of the Single-Employer and Multiemployer Programs Combined – Net Position (in billions of dollars)

Fiscal Year	Net Position of single employer	Net Position of multiple employer
1990	-1.9	-0.1
1991	-2.5	-0.2
1992	-2.7	-0.2
1993	-2.9	-0.3
1994	-1.2	-0.2
1995	-0.3	-0.2
1996	-0.9	-0.1
1997	-3.5	-0.2
1998	-5	-0.3
1999	-7	-0.2
2000	-9.7	-0.3
2001	-7.7	-0.1
2002	-3.6	-0.2
2003	-11.2	-0.3
2004	-23.3	-0.2
2005	-22.8	-0.3
2006	-18.1	-0.7

Fiscal Year	Net Position of single employer	Net Position of multiple employer
2007	-13.1	-1
2008	-10.7	-0.5
2009	-21.1	-0.9
2010	-21.6	-1.4
2011	-23.3	-2.8
2012	-29.1	-5.2
2013	-27.4	-8.3
2014	-19.3	-42.4
2015	-24.1	-52.3
2016	-20.6	-58.8

Data for Figure 22: Elements of the Information Sharing Environment

Illustration showing mission partners affected by: terrorism, weapons of mass destruction and homeland security) and communities of government sharing information on these matters.

Communities (assisting frontline investigators, analysts and operators)

- Law Enforcement
- Defense
- Intelligence
- Homeland Security
- Diplomacy

Mission Partners

- Federal
- State
- Local
- Tribal
- Private Sector
- Internationl

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High-Risk Series: An Update. GAO-13-283. Washington, D.C.: February 14, 2013.

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High-Risk Series: An Update. GAO-09-271. Washington, D.C.: January 22, 2009.

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Determining Performance and Accountability Challenges and High Risks. GAO-01-159SP. Washington, D.C.: November 1, 2000.

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