



October 2019

INFORMATION TECHNOLOGY

Agencies Need to Fully Implement Key Workforce Planning Activities

GAO Highlights

Highlights of [GAO-20-129](#), a report to congressional requesters

Why GAO Did This Study

The federal government annually spends over \$90 billion on IT. Despite this large investment, projects too frequently fail or incur cost overruns and schedule slippages while contributing little to mission-related outcomes. Effectively implementing workforce planning activities can facilitate the success of major acquisitions.

GAO was asked to conduct a government-wide review of IT workforce planning. The objective was to determine the extent to which federal agencies effectively implemented IT workforce planning practices. To do so, GAO compared IT workforce policies and related documentation from each of the 24 Chief Financial Officers Act of 1990 agencies to activities from an IT workforce planning framework GAO issued. GAO rated each agency as having fully, substantially, partially, minimally, or not implemented for each activity. GAO supplemented its reviews of agency documentation by interviewing agency officials.

What GAO Recommends

GAO is making recommendations to 18 of the 24 federal agencies to fully implement the eight key IT workforce planning activities. Of the 18 agencies, 13 agreed with the recommendations, one partially agreed, three neither agreed nor disagreed, and one disagreed with the findings and provided evidence which led to a modification to its recommendation, as discussed in this report. For all of the remaining recommendations, GAO continues to believe that they are all warranted.

View [GAO-20-129](#). For more information, contact Carol C. Harris at (202) 512-4456 or HarrisCC@gao.gov

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INFORMATION TECHNOLOGY

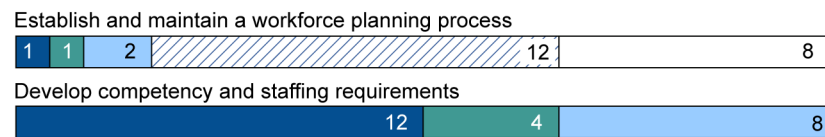
Agencies Need to Fully Implement Key Workforce Planning Activities

What GAO Found

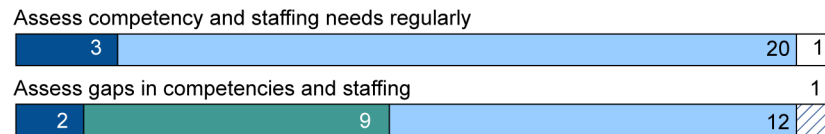
Federal agencies varied widely in their efforts to implement key information technology (IT) workforce planning activities that are critical to ensuring that agencies have the staff they need to support their missions. Specifically, at least 23 of the 24 agencies GAO reviewed partially implemented, substantially implemented, or fully implemented three activities, including *assessing gaps in competencies and staffing*. However, most agencies minimally implemented or did not implement five other workforce planning activities (see figure).

Agencies' Overall Implementation of the Key Information Technology (IT) Workforce Planning Activities

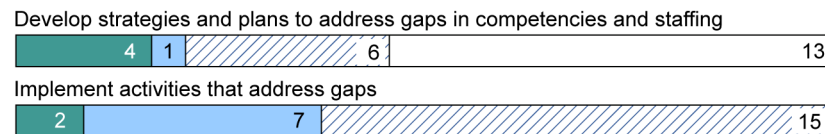
Set the strategic direction for IT workforce planning



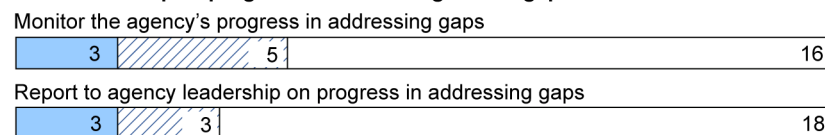
Analyze the IT workforce to identify skill gaps



Develop strategies and implement activities to address IT skill gaps



Monitor and report progress in addressing IT skill gaps



0 6 12 18 24

Number of agencies implementing the activity



Source: GAO analysis of agency information technology workforce planning policies and documentation. | GAO-20-129

Agencies provided various reasons for their limited progress in implementing workforce planning activities, including competing priorities (six agencies), and limited resources (three agencies). Until agencies make it a priority to fully implement all key IT workforce planning activities, they will likely have difficulty anticipating and responding to changing staffing needs and controlling human capital risks when developing, implementing, and operating critical IT systems.

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Abbreviations

Agriculture	U.S. Department of Agriculture
CIO	chief information officer
CFO	Chief Financial Officers
Commerce	Department of Commerce
Defense	Department of Defense
DHS	Department of Homeland Security
Education	Department of Education
Energy	Department of Energy
EPA	Environmental Protection Agency
FITARA	Federal Information Technology Acquisition Reform Act
GSA	General Services Administration
HHS	Department of Health and Human Services
HUD	Department of Housing and Urban Development
IT	information technology
Interior	Department of the Interior
Justice	Department of Justice
Labor	Department of Labor
NASA	National Aeronautics and Space Administration
NRC	Nuclear Regulatory Commission
NSF	National Science Foundation
OMB	Office of Management and Budget
OPM	Office of Personnel Management
SBA	Small Business Administration
SSA	Social Security Administration
State	Department of State
Transportation	Department of Transportation
Treasury	Department of the Treasury
USAID	U.S. Agency for International Development
VA	Department of Veterans Affairs

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October 30, 2019

Congressional requesters:

In fiscal year 2019, the federal government is expected to spend over \$90 billion on information technology (IT). However, as we have reported, IT projects have too frequently failed or incurred cost overruns and schedule slippages while contributing little to mission-related outcomes. As a result, we added “Improving the Management of Information Technology Acquisitions and Operations” to our high-risk list in February 2015.¹

We have reported that effective workforce planning is key to addressing the federal government’s IT challenges and ensuring that agencies have staff with the necessary knowledge, skills, and abilities to execute a range of management functions that support agencies’ missions and goals.² Further, we have noted that effectively implementing workforce planning activities can facilitate the success of major IT acquisitions.³ To this end, in November 2016, we issued an IT workforce planning framework that identifies four workforce planning steps and eight activities, including assessing gaps in competencies and skills, and developing strategies and plans to address those gaps. This framework is based on relevant laws and guidance issued over approximately the past 20 years. These include the Clinger-Cohen Act of 1996, the legislation referred to as the Federal Information Technology Acquisition Reform Act (FITARA), Office of Management and Budget (OMB) guidance, and the Office of Personnel Management’s (OPM) Workforce Planning Model.⁴

This report responds to your request that we conduct a government-wide review of federal IT workforce planning efforts. Our specific objective was to examine the extent to which federal agencies have effectively implemented IT workforce planning practices.

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

²GAO, *IT Workforce: Key Practices Help Ensure Strong Integrated Program Teams; Selected Departments Need to Assess Skill Gaps*, [GAO-17-8](#) (Washington, D.C.: Nov. 30, 2016).

³[GAO-17-8](#).

⁴[GAO-17-8](#).

To address the objective, we obtained the IT workforce policies and other workforce planning documents (e.g., workforce requirements and gap assessments) from each of the 24 Chief Financial Officers (CFO) Act of 1990 agencies.⁵ We then analyzed these documents to determine whether they were consistent with the eight workforce planning activities identified in our November 2016 framework. We assessed each activity as fully implemented, substantially implemented, partially implemented, minimally implemented, or not implemented. Our review focused on IT workforce planning efforts at the agency level, including processes for maintaining visibility and oversight into component-level IT workforce planning. In addition, we interviewed cognizant agency officials to discuss their implementation of the workforce planning activities. See appendix I for a more detailed discussion of our objective, scope, and methodology.

We conducted this performance audit from January 2018 to October 2019 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

For over 20 years, Congress has enacted various laws, and federal agencies have issued guidance, that call for agencies to perform workforce planning activities to help ensure the timely and effective acquisition of IT. These laws and guidance focus on the importance of (1) setting the strategic direction for workforce planning, (2) analyzing the workforce to identify skill gaps, (3) developing strategies to address skill

⁵The 24 major federal agencies covered by the Chief Financial Officers Act of 1990 are the Departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Homeland Security, Housing and Urban Development, the Interior, Justice, Labor, State, Transportation, the Treasury, and Veterans Affairs; Environmental Protection Agency; General Services Administration; National Aeronautics and Space Administration; National Science Foundation; Nuclear Regulatory Commission; Office of Personnel Management; Small Business Administration; Social Security Administration; and U.S. Agency for International Development.

gaps, and (4) monitoring and reporting on progress in addressing skill gaps.⁶ For example:

- The Clinger-Cohen Act of 1996 requires agency chief information officers (CIO) to annually (1) assess the requirements established for agency personnel regarding knowledge and skills in information resource management and the adequacy of such requirements for facilitating the achievement of performance goals; (2) assess the extent to which the positions and personnel at executive and management levels meet those requirements; (3) develop strategies and specific plans for hiring, training, and professional development to address any deficiencies; and (4) report to the head of the agency on the progress made in improving information resources management capability.⁷
- The E-Government Act of 2002 requires the Director of OPM, in consultation with the Director of OMB, the CIO Council, and the Administrator of General Services to (1) analyze, on an ongoing basis, the personnel needs of the federal government related to IT and information resource management; and (2) identify where current IT and information resource management training do not satisfy personnel needs. In addition, the law requires the Director of OMB to ensure that agency heads collect and maintain standardized information on their IT and information resources management workforce.⁸
- In 2010, OMB issued its 25-point plan for IT reform and outlined several action plans to build workforce capabilities, including

⁶An agency's skill gap can manifest itself in a variety of ways. For the purposes of this report, a skill gap may consist of one or more of the following: a (1) "staffing gap," in which an agency has an insufficient number of individuals to complete its work, such as a lack of contracting officers within its workforce; and/or a (2) "competency gap," in which an agency has individuals without the appropriate skills, abilities, or behaviors to successfully perform the work, such as an IT workforce without up-to-date cybersecurity skills. This definition is based on the Strategic Human Capital Management High Risk Initiative's definition of "skills gap," as outlined in its July 2012 status report. This initiative was an 18 month joint initiative launched in September 2011 by OPM and the Chief Human Capital Officers Council to address critical skill gaps in the federal government. Additionally, we use OPM's definition of a competency which refers to the knowledge, skills, abilities, behaviors, and other characteristics needed by individuals to successfully perform their work or occupation.

⁷Pub. L. No. 104-106, § 5125(c)(3) (Feb. 10, 1996), codified at 40 U.S.C. § 11315(c)(3).

⁸Pub. L. No. 107-347, § 209 (Dec. 17, 2002), 44 U.S.C. § 3501 note.

capabilities for acquisition and program management.⁹ For example, the plan directed OPM to create a specialized career path for IT program managers. In addition, OMB stated that it would work with OPM to provide agencies with direct hiring authority for program managers. OMB also tasked agencies with identifying program management competency gaps and reporting to OMB on those gaps.

- Subsequent to the 25-point plan, in July 2011, OMB released guidance for agencies to develop specialized IT acquisition cadres.¹⁰ Among other things, this guidance required agencies to analyze current acquisition staffing challenges; determine if developing or expanding the use of cadres would improve program results; and outline a plan to pilot or expand cadres for an especially high-risk area, if the agency determined that such an effort would improve performance.
- Further, in November 2011, OPM issued guidance for developing career paths for IT program managers.¹¹ OPM's career path guide was to build upon its IT Program Management Competency Model released in July 2011 by serving as a roadmap for individuals interested in pursuing a career in this area. In addition, the roadmap was to provide employees and their supervisors with a single-source reference to determine appropriate training opportunities for career advancement.
- In December 2014, Congress enacted legislation commonly referred to as FITARA.¹² Among other things, the law aims to ensure timely progress by federal agencies toward developing, strengthening, and deploying IT acquisition cadres consisting of personnel with highly specialized skills in IT acquisition, including program and project managers. Almost all of the 24 CFO Act agencies (other than the Department of Defense (Defense)) are required to update their annual acquisition human capital plans to address how they are meeting their

⁹OMB, *25 Point Implementation Plan to Reform Federal Information Technology Management* (Washington, D.C.: Dec. 9, 2010).

¹⁰OMB, *Guidance for Specialized Information Technology Acquisition Cadres* (Washington, D.C.: July 13, 2011).

¹¹OPM, *IT Program Management Career Path Guide*, (Nov. 18, 2011).

¹²Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015, Div. A, Title VIII, Subtitle D—Federal Information Technology Acquisition Reform, Pub. L. No. 113-291, § 835 (Dec. 19, 2014), 41 U.S.C. § 1704 note.

human capital requirements to support timely and effective acquisitions.

- To assist agencies in implementing the provisions of FITARA and to build upon agency responsibilities under the Clinger-Cohen Act of 1996, OMB issued guidance to agencies in June 2015.¹³ In doing so, OMB directed agencies (other than Defense) to, among other things, (1) develop a set of competency requirements for staff, including leadership positions; and (2) develop and maintain a current workforce planning processes to ensure that agencies can anticipate and respond to changing mission requirements, maintain workforce skills in a rapidly developing environment, and recruit and retain the talent needed to accomplish their missions. Each agency is to conduct an annual self-assessment of its conformity with these requirements and develop an implementation plan describing the changes it will make.
- The Federal Cybersecurity Workforce Assessment Act of 2015 required OPM, with support from the National Institute of Standards and Technology, to establish a coding structure to be used in identifying all federal civilian and noncivilian positions that require the performance of IT, cybersecurity, or other cyber-related functions.¹⁴ The act also required agencies, in consultation with OPM, the National Institute of Standards and Technology, and the Department of Homeland Security (DHS), to then utilize this coding structure to annually assess, among other things, the IT, cybersecurity, and other cyber-related work roles of critical need in their workforce.
- In April 2016, OPM issued an update to agency chief human capital officers stating that it had recently revalidated the need to continue working to close skill gaps in certain government-wide high-risk mission critical occupations, including those in the cybersecurity and the science, technology, engineering and mathematics functional area.¹⁵

¹³OMB, *Management and Oversight of Federal Information Technology*, Memorandum M-15-14 (Washington, D.C.: June 10, 2015).

¹⁴Federal Cybersecurity Workforce Assessment Act of 2015, Pub. L. No. 114-113, Div. N, Title III (Dec. 18, 2015). 5 U.S.C. § 301 note.

¹⁵<https://www.chcoc.gov/content/closing-skills-gaps-strategy-reporting-and-monitoring> (accessed June 24, 2019).

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- OMB released its Federal Cybersecurity Workforce Strategy in July 2016.¹⁶ Among other things, the strategy cited the need for agencies to examine specific IT, cybersecurity, and cyber-related work roles, and identify personnel skills gaps, rather than merely examining the number of vacancies by job series. The strategy identified several actions that agencies could take to identify workforce needs, expand the cybersecurity workforce through education and training, recruit and hire highly skilled talent, and retain and develop highly skilled talent.
 - In July 2016, OMB issued updated policy for the planning, budgeting, governance, acquisition, and management of federal information, personnel, equipment, funds, IT resources, and supporting infrastructure and services.¹⁷ Among other things, OMB's updated policy requires an agency's chief human capital officer, CIO, chief acquisition officer, and senior agency official for privacy to develop a set of competency requirements for staff and develop and maintain a current workforce planning process.
 - Further, in September 2016, OPM updated its guidance regarding the annual submission of agencies' mission critical occupation resource charts. These charts are to identify current staffing levels, staffing targets, projected attrition, actual attrition, and retirement eligibility in government-wide and selected agency-specific mission critical occupations.¹⁸

While these laws and guidance focus on IT workforce planning, other broader initiatives have also been undertaken to improve federal human capital management. For example, we and OPM have developed human capital management models that call for implementing workforce planning practices that can facilitate the analysis of gaps between current skills and future needs. In addition, the models call for the development of

¹⁶OMB, *Federal Cybersecurity Workforce Strategy*, Memorandum M-16-15 (Washington, D.C.: July 12, 2016).

¹⁷OMB, Circular A-130, *Managing Information as a Strategic Resource* (Washington, D.C.: July 27, 2016).

¹⁸<https://chcoc.gov/content/mission-critical-occupation-resource-charts-guidance-and-submission-instructions> (accessed June 24, 2019). The guidance states that it outlines existing human capital reporting requirements under 5 C.F.R. Part 250.

strategies for filling the gaps, as well as planning for succession.¹⁹ Further, our Standards for Internal Control in the Federal Government stress that management should consider how best to retain valuable employees, plan for their eventual succession, and ensure continuity of needed skills and abilities.²⁰

Based on the aforementioned laws, guidance, and initiatives, in November 2016, GAO issued an evaluation framework to support the assessment of whether selected federal agencies are adequately assessing and addressing gaps in IT knowledge and skills.²¹ The framework identifies four workforce planning steps and supporting activities that address (1) setting the strategic direction for IT workforce planning, (2) analyzing the IT workforce to identify competency and staffing gaps, (3) developing and implementing strategies to address the gaps, and (4) monitoring and reporting progress in addressing the gaps.

GAO Previously Reported on Shortfalls in Federal IT Workforce Planning

We have previously reported that effectively addressing mission critical skill gaps in IT requires a multifaceted response from OPM and agencies.²² Specifically, our high-risk update in February 2013 noted that OPM and agencies would need to use a strategic approach that (1) involves top management, employees, and other stakeholders; (2) identifies the critical skills and competencies that will be needed to achieve current and future programmatic results; (3) develops strategies that are tailored to address skill gaps; (4) builds the internal capability needed to address administrative, training, and other requirements

¹⁹In 2002, OPM released a *Human Capital Assessment and Accountability Framework*—developed jointly with GAO and OMB—that identifies five human capital systems that together provide a consistent, comprehensive representation of human capital management for the federal government (http://www.opm.gov/hcaaf_resource_center/, accessed July 1, 2016). In addition, GAO and OPM have established subsequent guidance on key principles and steps associated with workforce planning that agencies can utilize in their efforts to assess and address IT skill gaps. See [GAO-04-39](#) and OPM's *Workforce Planning Model*, <https://www.opm.gov/policy-data-oversight/human-capital-framework/reference-materials/strategic-alignment/workforceplanning.pdf> (accessed November 27, 2018).

²⁰GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: Sept. 10, 2014).

²¹[GAO-17-8](#).

²²GAO, *High-Risk Series: An Update*, [GAO-13-283](#) (Washington, D.C.: Feb. 14, 2013) and *Federal Workforce: OPM and Agencies Need to Strengthen Efforts to Identify and Close Mission-Critical Skills Gaps*, [GAO-15-223](#) (Washington, D.C.: Jan. 30, 2015).

important to support workforce planning strategies; and (5) includes plans to monitor and evaluate progress toward closing skill gaps and meeting other human capital goals using a variety of appropriate metrics.

In January 2015, we reported that the Chief Human Capital Officers Council had identified skill gaps in six government-wide occupations including IT/cybersecurity and contract specialist/acquisition. We noted, however, that the effort had shortcomings, and that it would be important for the council to use lessons learned from these initial efforts to inform subsequent ones to identify skill gaps. We also reported that key features of OPM's efforts to predict emerging skill gaps beyond those already identified were in the early planning stages, and OPM and selected agencies could improve the manner in which they address skill gaps by strengthening their use of quarterly data-driven reviews.

Further, we reported that individual agencies across the federal government have not always effectively planned for IT workforce challenges. For example,

- In May 2014, we concluded that the Social Security Administration's (SSA) IT human capital program had identified skills and competencies to support certain workforce needs, but lacked adequate planning for the future.²³ The agency had developed IT human capital planning documents, such as an Information Resources Management plan, and skills inventory gap reports that identified near-term needs, such as skill sets for the following 2 years. Nevertheless, SSA had not adequately planned for longer-term needs because its human capital planning and analysis were not aligned with long-term goals and objectives and the agency did not have a current succession plan for its IT efforts. Accordingly, we recommended that SSA identify long-term IT needs in its updated human capital operating plan. The agency agreed with, and subsequently implemented the recommendation.
- In August 2016, we determined that the Department of Veterans Affairs (VA) had performed key steps, such as documenting an IT human capital strategic plan and regularly analyzing workforce data. However, the agency had not tracked and reviewed historical and projected leadership retirements and had not identified gaps in future

²³GAO, *Information Technology: SSA Needs to Address Limitations in Management Controls and Human Capital Planning to Support Modernization Efforts*, [GAO-14-308](#) (Washington, D.C.: May 8, 2014);

skill areas.²⁴ We recommended that the agency track and review historical workforce data and projections related to leadership retirements, and identify IT skills needed beyond the current fiscal year, to assist in identifying future skills gaps. The agency concurred with our recommendations and has partially implemented them by identifying the IT skills it needed beyond the current fiscal year.

- In November 2016, as a part of the review in which we developed the IT workforce planning framework discussed previously, we assessed five agencies—the Departments of Commerce (Commerce), Defense, Transportation (Transportation), the Treasury (Treasury), and Health and Human Services (HHS)—against the eight key workforce planning activities.²⁵ While all five agencies had demonstrated important progress in either partially or fully implementing key workforce planning activities, each had shortfalls. For example, only one agency (Defense) had implemented a workforce planning process, none had identified IT competency gaps for their entire workforce, and three (Defense, Transportation, and Treasury) were performing some level of monitoring toward the closure of identified skill gaps. We reported that, until the agencies fully implemented key workforce planning activities, they would have a limited ability to assess and address gaps in knowledge and skills that are critical to the success of major IT acquisitions. As a result, we recommended that the agencies implement the eight IT workforce planning activities to facilitate the analysis of gaps between current skills and future needs, the development of strategies for filling the gaps, and succession planning. Defense partially agreed with our recommendations and the other four agencies agreed with our recommendations. An updated assessment of actions to implement our recommendations is described in our evaluation of agencies' implementation of key IT workforce planning activities in appendix II.
- In May 2018, as part of a review of the National Aeronautics and Space Administration's (NASA) approach to overseeing and managing IT, we found that the agency had partially implemented five of the eight key IT workforce planning activities and had not

²⁴GAO, *VA IT Management: Organization Is Largely Centralized; Additional Actions Could Improve Human Capital Practices and Systems Development Processes*, [GAO-16-403](#) (Washington, D.C.: Aug. 17, 2016).

²⁵[GAO-17-8](#).

implemented three.²⁶ For example, NASA had not assessed competency and staffing needs regularly or reported progress to agency leadership. We reported that, until the agency implemented the key IT workforce planning activities, it would have difficulty anticipating and responding to changing staffing needs. As a result, we recommended that NASA fully implement the eight key IT workforce planning activities. The agency disagreed with our recommendation stating that its workforce improvement activities were already underway. Nevertheless, implementing the workforce planning activities discussed in this report could enhance and complement the agency's ongoing and future efforts.

- In a June 2018 report on the progress of agencies' efforts to implement the requirements of the Federal Cybersecurity Workforce Assessment Act of 2015, we noted that most CFO Act agencies had developed baseline assessments to identify cybersecurity personnel within their agencies that held certifications.²⁷ However, because agencies had not consistently defined the workforce and the National Initiative for Cybersecurity Education had not developed a list of appropriate certifications, efforts such as conducting the baseline assessment to determine the percentage of cybersecurity personnel that hold appropriate certifications had yielded inconsistent and potentially unreliable results. Further, we reported that, while most CFO Act agencies had developed procedures for assigning cybersecurity codes to positions, several agencies had not addressed activities required by OPM to implement the requirements of the Federal Cybersecurity Workforce Assessment Act.

As a result, we made 30 recommendations to 13 agencies to develop and submit their baseline assessments and to fully address the required activities in OPM's guidance in their procedures for assigning employment codes to cybersecurity positions. Of the 13 agencies, seven agreed with the recommendations made to them, four did not state whether they agreed or disagreed, one agency agreed with one of the two recommendations made to it, and one did not provide comments on the report. As of July 2019, the agencies had implemented 20 of the recommendations.

²⁶GAO, *NASA Information Technology: Urgent Action Needed to Address Significant Management and Cybersecurity Weaknesses*, [GAO-18-337](#) (Washington, D.C.: May 22, 2018).

²⁷GAO, *Cybersecurity Workforce: Agencies Need to Improve Baseline Assessments and Procedures for Coding Positions*, [GAO-18-466](#) (Washington, D.C.: June 14, 2018).

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- In August 2018, as part of a government-wide review of CIO responsibilities, we reported that CIOs are responsible for assessing agency IT workforce needs and developing strategies and plans for meeting those needs.²⁸ However, we noted that the majority of the agencies minimally addressed or did not address the role of their CIOs in the area of IT workforce and reported major challenges related to their IT workforce. Specifically, 19 agencies' policies had not addressed their CIOs' role in conducting annual assessments of IT management and skill requirements and the remaining five agencies had only partially addressed this responsibility. We noted that the shortcomings in agencies' policies were attributable, at least in part, to incomplete guidance from OMB. Consequently, we recommended that OMB issue guidance that addresses the IT workforce responsibilities of CIOs that were not included in existing guidance. OMB partially agreed with the recommendation and has not yet implemented it. We also recommended that 24 agencies ensure that their IT management policies address the role of their CIOs in the IT workforce management area. Of the 24 agencies, 14 agreed with the recommendations, five had no comments, five partially agreed, and one disagreed. We are monitoring the status of the agencies' actions to implement our recommendations.
 - In March 2019, as part of an update on the status of agencies' progress in implementing the requirements of the Federal Cybersecurity Workforce Assessment Act,²⁹ we reported, among other things, that most of the 24 CFO Act agencies had not completely or accurately categorized work roles for IT positions within the 2210 IT management occupational series (IT management).³⁰ The agencies reported that this was, in part, because they may have assigned the associated codes in error or had not completed validating the accuracy of the assigned codes. We noted that, by assigning work roles that are inconsistent with the IT, cybersecurity,

²⁸GAO, *Federal Chief Information Officers: Critical Actions Needed to Address Shortcomings and Challenges in Implementing Responsibilities*, [GAO-18-93](#) (Washington, D.C.: Aug. 2, 2018).

²⁹GAO, *Cybersecurity Workforce: Agencies Need to Accurately Categorize Positions to Effectively Identify Critical Staffing Needs*, [GAO-19-144](#) (Washington, D.C.: Mar. 12, 2019).

³⁰According to OPM, the 2210 IT management occupational series covers positions that manage, supervise, lead, administer, develop, deliver, and support information technology systems and services. It requires knowledge of IT principles, concepts, and methods; e.g., data storage, software applications, networking.

and cyber-related positions, the agencies were diminishing the reliability of the information they needed to improve workforce planning. We made recommendations to 22 agencies to take steps to address the inaccuracies. Of these agencies, 20 agreed with the recommendations, one partially agreed, and one did not agree with one of the two recommendations. As of August 2019, three of the agencies have implemented their recommendation, and two of the agencies have implemented one of their two recommendations. We continue to believe that all of the recommendations are warranted.

Agencies Had Mixed Progress Implementing IT Workforce Planning Activities

As previously noted, GAO issued an IT workforce planning framework that includes eight key activities, based on federal laws, guidance, and best practices. Implementing these activities is critical to adequately assessing and addressing gaps in IT knowledge, skills, and abilities that are needed to execute a range of management functions that support agencies' missions and goals. The eight key workforce planning activities are identified in table 1.

Table 1: Key Information Technology (IT) Workforce Planning Steps and Activities

Set the strategic direction for IT workforce planning

Establish and maintain a workforce planning process

Develop competency and staffing requirements

Analyze the IT workforce to identify skill gaps

Assess competency and staffing needs regularly

Assess gaps in competencies and staffing

Develop strategies and implement activities to address IT skill gaps

Develop strategies and plans to address gaps in competencies and staffing

Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)

Monitor and report progress in addressing IT skill gaps

Monitor the agency's progress in addressing competency and staffing gaps

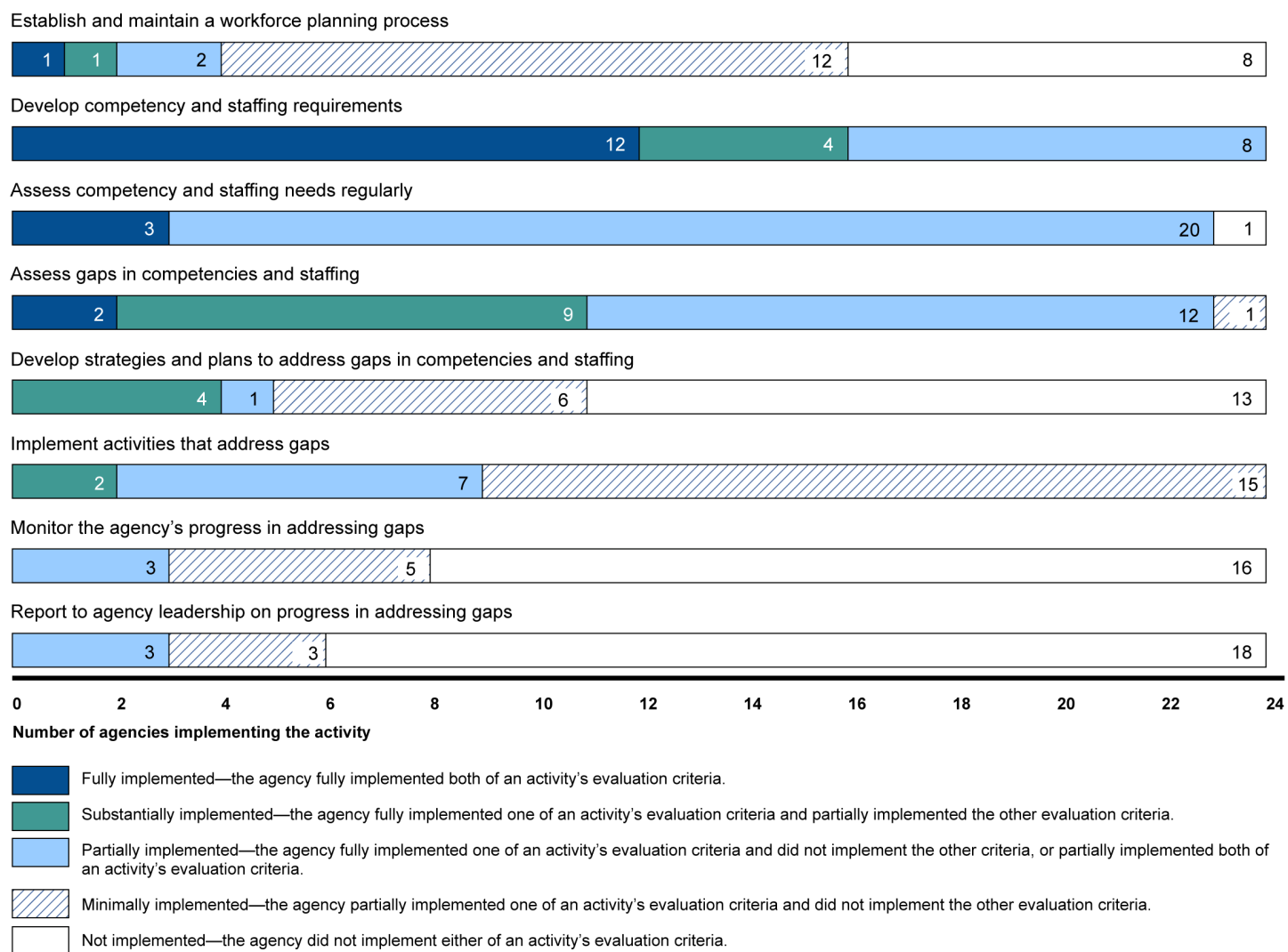
Report to agency leadership on progress in addressing competency and staffing gaps

Source: GAO analysis of relevant laws and guidance. | GAO-20-129

None of the 24 agencies that we reviewed had fully implemented all eight IT workforce planning activities. In this regard, nearly all of the agencies had partially implemented, substantially implemented, or fully implemented three of the workforce planning activities (develop competency and staffing requirements, assess competency and staffing needs regularly, and assess gaps in competencies and staffing).

However, most agencies had minimally implemented or did not implement the five other workforce planning activities (including efforts to establish a workforce planning process and address staffing gaps). Figure 1 shows the agencies' overall implementation of each of the eight key IT workforce planning activities, as of May 2019.

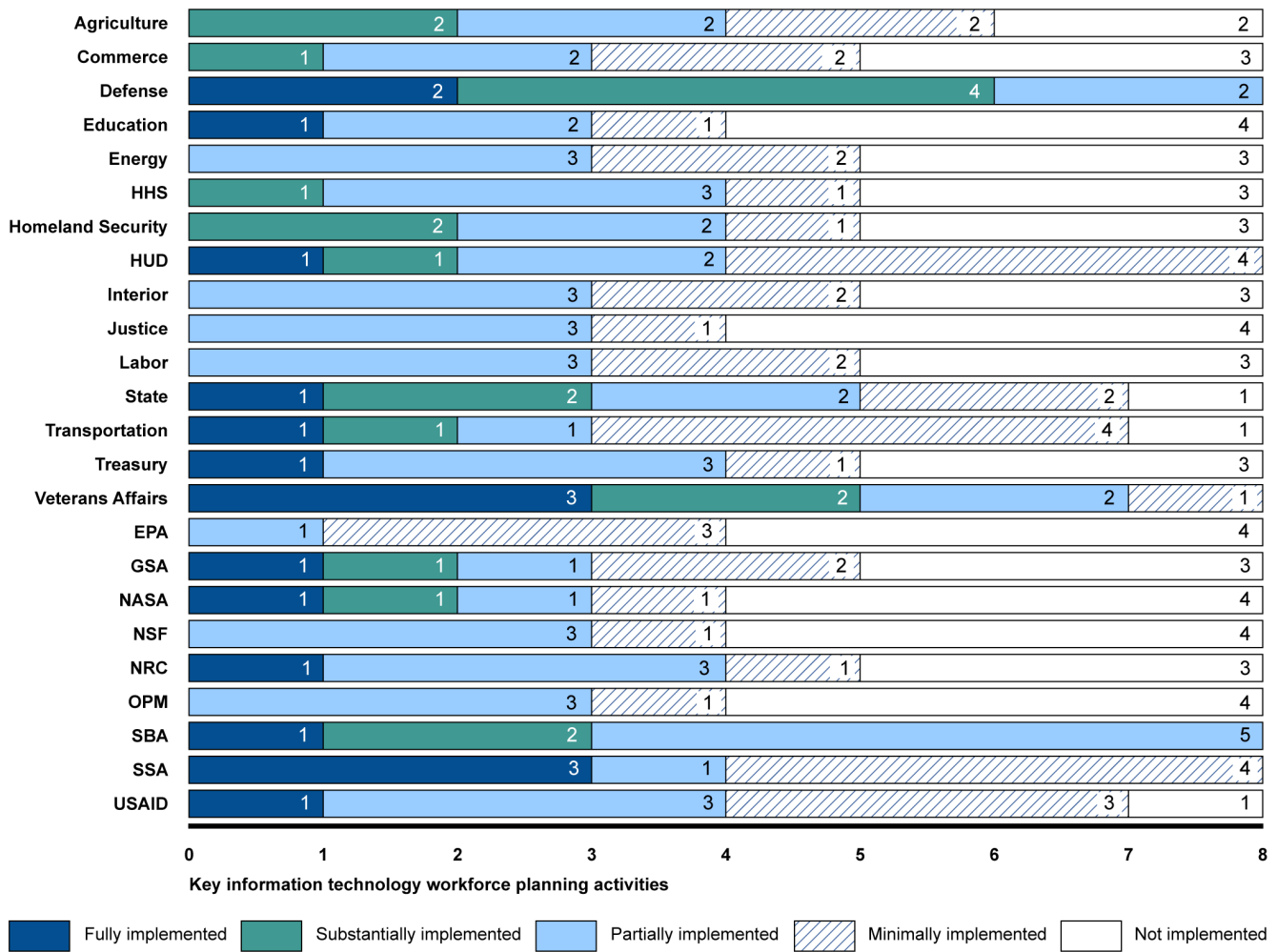
Figure 1: The 24 Chief Financial Officers Act Agencies' Overall Implementation of Each of the Eight Key Information Technology Workforce Planning Activities



Source: GAO analysis of agency information technology workforce planning policies and documentation. | GAO-20-129

Further, some agencies had made more progress than others. Specifically, while five agencies (Defense, Department of State (State), VA, Small Business Administration (SBA), and SSA) fully implemented or substantially implemented three or more activities, 11 agencies did not fully implement any of the activities, and 15 agencies did not implement three or more activities. Figure 2 identifies the extent to which each of the 24 agencies had implemented the eight workforce planning activities. In addition, appendix II provides our assessment of each agency's implementation of the activities.

Figure 2: Extent to Which Each of the 24 Chief Financial Officers Act Agencies Have Implemented the Eight Workforce Planning Activities



Agriculture (United States Department of Agriculture), Commerce (Department of Commerce), Defense (Department of Defense), Education (Department of Education), Energy (Department of Energy), HHS (Department of Health & Human Services), Homeland Security (Department of Homeland Security), HUD (Department of Housing and Urban Development), Interior (Department of the Interior), Justice (Department of Justice), Labor (Department of Labor), State (Department of State), Transportation (Department of Transportation), Treasury (Department of the Treasury), Veterans Affairs (Department of Veterans Affairs), EPA (Environmental Protection Agency), GSA (General Services Administration), NASA (National Aeronautics and Space Administration), NSF (National Science Foundation), NRC (Nuclear Regulatory Commission), OPM (Office of Personnel Management), SBA (Small Business Administration), SSA (Social Security Administration), USAID (United States Agency for International Development)

Source: GAO analysis of agency data. | GAO-20-129

Only One Agency Fully Established and Maintained a Workforce Planning Process

To fully implement the establish and maintain an IT workforce planning process activity, an agency should have a documented IT workforce planning process that describes how the agency will implement key IT workforce planning activities, including those identified in the IT workforce planning framework. The process should also define the CIO's and others' roles and responsibilities for implementing the activities; align with mission goals and objectives; and address both the agency-level and component-level workforce, including how the agency is to maintain visibility and oversight into component-level workforce planning efforts (as applicable). In addition, the agency should periodically update the process.³¹

Only one of the 24 CFO Act agencies had fully implemented this activity. Specifically,

- one agency had fully implemented the activity (Nuclear Regulatory Commission (NRC));
- one agency had substantially implemented the activity (Defense);
- two agencies had partially implemented the activity (Department of Housing and Urban Development (HUD), and SBA);
- 12 agencies had minimally implemented the activity (U.S. Department of Agriculture (Agriculture), Commerce, Department of Energy (Energy), HHS, DHS, Department of the Interior (Interior), Department of Labor (Labor), State, Transportation, Treasury, VA, and SSA); and
- eight agencies did not implement the activity (Department of Education (Education), Department of Justice (Justice), Environmental Protection Agency (EPA), General Services Administration (GSA), NASA, National Science Foundation (NSF), OPM, and U.S. Agency for International Development (USAID)).

For example:

- NRC fully implemented the activity. In February 2016, NRC developed a strategic workforce plan that addressed all key IT workforce planning activities in our framework. In addition, the process was aligned with the agency's goals and objectives. Further, the process included general roles and responsibilities, including for the Office of the Chief Human Capital Officer, Senior Management, and its component offices. Moreover, the agency's Management Directive

³¹Evaluation criteria based on [GAO-17-8](#) and related laws, policies, and guidance.

9.22 further defined the Chief Information Officer's roles and responsibilities with regards to IT workforce planning. In addition, NRC has periodically updated the process. For example, the agency updated the process in July 2017 to better integrate its workload projection, skills identification, human capital management, individual development, and workforce management activities.

- Defense substantially implemented the activity. The agency's June 2018 Human Capital Operating Plan addressed how Defense plans to implement the workforce planning activities for its functional communities, including the IT functional community.³² In addition, the plan defined the CIO's roles and responsibilities and was aligned with the agency's goals and objectives.

Further, the plan documented how the agency will maintain oversight of and visibility into functional community planning efforts. However, it called for the functional communities to develop strategic workforce plans to further define their workforce planning process and the IT functional community has not yet completed its plan or provided a time frame for completion. With respect to maintaining the process, Defense periodically updated its IT workforce process—the June 2018 plan replaced the process identified in the agency's previous workforce plans.

- SBA partially implemented the activity. In April 2018, SBA released its IT Workforce Plan for fiscal years 2018 through 2020 that addressed how the agency intends to implement all of its IT workforce planning activities, and was aligned with the agency's mission goals and objectives. In addition, in April 2018, the agency released its IT Change Management and Communication Plan that defined the CIO's IT workforce planning roles and responsibilities and was aligned with the agency's mission goals and objectives. However, as it is a new process, SBA had not updated it as of May 2019.
- Interior minimally implemented the activity. Interior issued a policy in 2016 that directed its bureaus to develop IT workforce plans, which the agency stated that it intends to use to develop an agency-wide IT workforce plan. The policy identified efforts that should be addressed in the plans, including most of the IT workforce planning activities. However, as of May 2019, the bureaus' plans and the agency-wide

³²According to Defense, a functional community is a group of one or more occupational series or specialties with common functions, competencies, and career paths to accomplish a specific part of the agency's mission.

plan had not been completed. Officials in the Office of the CIO stated that they expect to finalize all of the plans by the end of fiscal year 2019.

- GSA did not implement the activity. Officials in the Human Capital Strategic Planning Division stated that GSA followed the process described in OPM's IT workforce planning guidance; however, the agency did not document this in policy and had not developed any other documentation to guide its implementation of workforce planning activities.³³

Most Agencies at Least Partially Developed Competency and Staffing Requirements for Their IT Staff

To fully implement the develop competency and staffing requirements activity, an agency should develop a set of competency requirements for all or most of its IT workforce, including leadership positions. In addition, the agency should develop staffing requirements, which include projections over several years.³⁴

Most of the agencies had fully or substantially developed competency and staffing requirements. Specifically,

- 12 agencies had fully implemented the activity (Defense, Education, HUD, State, Transportation, Treasury, VA, GSA, NASA, SBA, SSA, and USAID),
- four agencies had substantially implemented the activity (Agriculture, Commerce, HHS, and DHS), and
- eight agencies had partially implemented the activity (Energy, Interior, Justice, Labor, EPA, NSF, NRC, and OPM).

For example:

- State fully implemented the activity. State developed competency requirements for its IT workforce, including for both its foreign and civil services. In addition, State developed staffing requirements for its IT staff, including projections over several years. Specifically, it developed staffing requirements for its mission critical occupations, which include IT management, in response to OPM's requirement to submit this information annually.

³³See OPM's *Workforce Planning Model*, <https://www.opm.gov/policy-data-oversight/human-capital-management/reference-materials/strategic-alignment/workforceplanning.pdf> (accessed November 27, 2018).

³⁴Evaluation criteria based on [GAO-17-8](#) and related laws, policies, and guidance.

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- DHS substantially implemented the activity. DHS developed competency requirements for two of the agency's four IT functional groups. According to officials in the Office of the CIO, the agency expects to finalize competency requirements for the remaining two groups by the end of fiscal year 2019. In addition, DHS developed staffing requirements for its IT staff, including projections over several years. Specifically, it developed staffing requirements for its mission critical occupations, which include IT management, in response to OPM's requirement to submit this information annually.
 - OPM partially implemented the activity. OPM did not develop competency requirements. However, the agency developed staffing requirements for its IT staff, including projections over several years. Specifically, it developed staffing requirements for its mission critical occupations, which include IT management.

Most Agencies Periodically Assessed IT Staffing Needs, but Not Competency Needs

To fully implement the assess competency and staffing needs regularly activity, an agency should periodically assess competency needs for all or most of its IT workforce. In addition, the agency should periodically assess staffing needs for all or most of its IT workforce.³⁵

Most of the agencies periodically assessed staffing needs, but did not assess competency needs. Specifically,

- three agencies had fully implemented the activity (Defense, VA, and SSA);
- 20 agencies had partially implemented the activity by periodically assessing IT staffing needs; however, these agencies did not periodically assess competency needs (Agriculture, Commerce, Education, Energy, HHS, DHS, HUD, Interior, Justice, Labor, State, Transportation, Treasury, GSA, NASA, NSF, NRC, OPM, SBA, and USAID); and
- one agency did not implement the activity (EPA).

For example:

- VA fully implemented the activity. VA assessed competency needs annually as a part of its professional development planning process. For example, the agency performed an assessment in fiscal year 2017, which led it to add project management as a competency for all

³⁵Evaluation criteria based on [GAO-17-8](#) and related laws, policies, and guidance.

IT staff. In addition, in fiscal year 2018, VA's assessment resulted in adding two new competencies—data analytics and risk management. Further, VA annually assessed staffing needs for its IT staff in response to the annual OPM reporting requirement to do so.

- Commerce partially implemented the activity. The agency initially developed its competency requirements in January 2016, but had not since updated its needs. On the other hand, Commerce annually assessed staffing needs for its IT staff in response to the OPM reporting requirement to do so.
- EPA did not implement the activity. EPA did not develop competency needs for its IT workforce. In addition, the agency could not provide documentation showing that it had regularly assessed staffing needs for its IT staff.

Most Agencies Took Steps to Assess Competency and Staffing Gaps

To fully implement the assess gaps in competencies and staffing activity, an agency should periodically assess gaps in competencies for all or most of its IT workforce. Further, the assessment should be performed based on the agency's current competency needs. In addition, the agency should periodically assess gaps in staffing for all or most of its IT workforce.³⁶

Most agencies took steps to assess competency and staffing gaps. Specifically,

- two agencies had fully implemented the activity (VA and SSA);
- nine agencies had substantially implemented the activity (Agriculture, Defense, DHS, HUD, State, Transportation, GSA, NASA, and SBA);
- 12 agencies had partially implemented the activity by periodically assessing IT staffing gaps, but not periodically assessing competency gaps (Commerce, Education, Energy, HHS, Interior, Justice, Labor, Treasury, NSF, NRC, OPM, and USAID); and
- one agency had minimally implemented the activity (EPA).

For example:

- SSA fully implemented the activity. SSA assessed gaps in its competencies for its IT management staff biennially starting in fiscal

³⁶Evaluation criteria based on [GAO-17-8](#) and related laws, policies, and guidance.

year 2014. In addition, SSA annually assessed staffing gaps for its IT staff in response to the OPM reporting requirement.

- HUD substantially implemented the activity. HUD assessed competency gaps for its IT management staff biennially; it began doing so in fiscal year 2014. However, HUD did not assess competency needs regularly; thus, it could not ensure that the gap assessments reflect the agency's current competency needs. HUD annually assessed staffing gaps for its IT staff in response to the OPM reporting requirement.
- Education partially implemented the activity. Education did not assess gaps in competencies for its IT staff. However, the agency annually assessed staffing gaps for its IT staff in response to the OPM reporting requirement.
- EPA minimally implemented the activity. EPA did not assess competency gaps because, as previously stated, the agency did not develop competency requirements. In addition, while EPA assessed staffing gaps in 2018, it did not provide documentation showing that it had assessed staffing gaps prior to or since then.

Most Agencies Did Not Develop Strategies and Plans to Address Competency and Staffing Gaps

To fully implement the develop strategies and plans to address gaps in competencies and staffing activity, an agency should develop strategies and plans, including specific actions and milestones, to address identified competency gaps. In addition, the agency should develop strategies and plans, including specific actions and milestones, to address identified staffing gaps.³⁷

Most agencies did not develop strategies and plans to address competency and staffing gaps. Specifically,

- four agencies had substantially implemented the activity (Defense, State, VA, and SBA),
- one agency had partially implemented the activity (Agriculture),
- six agencies had minimally implemented the activity (HUD, Transportation, EPA, GSA, SSA, and USAID), and
- 13 agencies did not implement the activity (Commerce, Education, Energy, HHS, DHS, Interior, Justice, Labor, Treasury, NASA, NSF, NRC, and OPM).

³⁷Evaluation criteria based on [GAO-17-8](#) and related laws, policies, and guidance.

For example:

- State substantially implemented the activity. State identified strategies to address high-priority IT competency gaps, including developing additional training, conducting quarterly reviews of IT workforce issues, and improving hiring processes; however, it had not developed plans, including actions and milestones, for how it would carry out the strategies.

With respect to staffing, State identified strategies and plans to address them in its Five-Year Workforce and Leadership Success Plan for Fiscal Years 2016 through 2020. For example, State identified using special hiring initiatives, such as its Pathways Programs, to address staffing gaps. In addition, State developed the Foreign Affairs IT Fellowship Program, which is intended to recruit students by offering internships.

- Agriculture partially implemented the activity. In 2019, Agriculture developed strategies, which included providing training and developing career paths, to address competency gaps identified for two of 13 IT functional roles; however, the agency did not develop associated plans, including actions and milestones. Further, Agriculture did not develop strategies to address gaps for the other 11 IT functional roles because the agency had not assessed gaps for those roles.

With respect to staffing, in 2019, Agriculture identified strategies to address staffing gaps identified for two of its IT functional roles, including collaborating with universities. However, it did not develop plans to carry out the strategies. In addition, Agriculture did not develop strategies and plans to address gaps in staffing for its other 11 IT functional roles.

- HUD minimally implemented the activity. HUD's Office of the CIO developed a training plan for fiscal years 2017 through 2018, which identified training courses to address specific technical competency gaps. However, HUD has not updated its competency needs regularly to ensure that the plan and underlying gap assessment reflect the agency's current competency needs. With respect to staffing, HUD did not develop strategies and plans to address gaps.
- DHS did not implement the activity. DHS did not develop strategies and plans to address either competency or staffing gaps.

Most Agencies Minimally Implemented Strategies and Plans to Address Specific Gaps

To fully implement the activities that address gaps activity, an agency should execute its strategies and plans to address identified gaps in competencies and staffing. In addition, the agency should implement other efforts to assist with addressing competency and staffing needs, including the following efforts identified in FITARA: IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and the use of special hiring authorities.³⁸

Most of the agencies minimally implemented strategies and plans to address competency and staffing gaps. Specifically,

- two agencies had substantially implemented this activity (Defense and VA),
- seven agencies had partially implemented the activity (HHS, DHS, State, Treasury, SBA, SSA, and USAID), and
- 15 agencies had minimally implemented the activity by implementing workforce efforts identified in FITARA, but not implementing strategies and plans to address its identified competency and staffing gaps primarily because they had not developed strategies and plans to address identified gaps (Agriculture, Commerce, Education, Energy, HUD, Interior, Justice, Labor, Transportation, EPA, GSA, NASA, NSF, NRC, and OPM).

For example:

- VA substantially implemented the activity. VA implemented strategies and plans to address gaps in competencies. For example, in its Office of Information and Technology Training Gap Analysis report, VA identified actions taken to address the prior year's competency gaps. These actions included developing additional training courses, as well as providing on-the-job training activities. However, VA did not provide documentation showing that it had implemented strategies and plans to address identified staffing gaps.

With respect to the efforts identified in FITARA that can assist with addressing competency and staffing needs, VA implemented an IT acquisition cadre, developed plans to strengthen program management, developed a career path for program managers, and used special hiring authorities to hire IT staff.

³⁸Evaluation criteria based on [GAO-17-8](#) and related laws, policies, and guidance.

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- SSA partially implemented the activity. SSA implemented strategies to address gaps in competencies. For example, according to its gap closure report, the agency closed competency gaps by providing training to existing staff, hiring new staff, and hiring contractors with needed skills. However, SSA did not implement strategies and plans to address staffing gaps because it had not yet developed them.

With respect to the efforts identified in FITARA that can assist with addressing competency and staffing needs, SSA used special hiring authorities to hire eight IT specialists in fiscal year 2018. However, SSA did not implement others, including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, and plans to strengthen program management.

- GSA minimally implemented the activity. GSA did not develop strategies and plans to address identified gaps in competencies or staffing.

With respect to the efforts identified in FITARA that can assist with addressing competency and staffing needs, GSA implemented efforts to provide cross-functional training for acquisition and program personnel and used special hiring authorities to hire IT staff. However, the agency did not implement others, including plans to strengthen program management or career paths for program managers.

Most Agencies Did Not Establish Processes for Monitoring Progress in Addressing Gaps

To fully implement the monitor the agency's progress in addressing competency and staffing gaps activity, an agency should track progress in implementing strategies and plans to address competency gaps. In addition, the agency should track progress in implementing strategies and plans to address staffing gaps.³⁹

Most agencies did not establish processes for monitoring progress in addressing competency and staffing gaps. Specifically,

- three agencies had partially implemented the activity (Defense, VA, and SBA),
- five agencies had minimally implemented the activity (HUD, State, Transportation, SSA, and USAID), and

³⁹Evaluation criteria based on [GAO-17-8](#) and related laws, policies, and guidance.

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- 16 agencies did not implement the activity (Agriculture, Commerce, Education, Energy, HHS, DHS, Interior, Justice, Labor, Treasury, EPA, GSA, NASA, NSF, NRC, and OPM).

For example:

- SBA partially implemented the activity. SBA established an IT Workforce Steering Committee which monitored progress made in implementing, among other things, strategies and plans to address competency and staffing gaps. However, the agency did not monitor whether the strategies and plans led to a closure in gaps.
- State minimally implemented the activity. While State monitored its progress in implementing recommended actions to address competency gaps, the agency did not monitor whether the actions led to closing gaps. With respect to staffing, State did not monitor progress in addressing gaps because it did not develop strategies and plans to close staffing gaps.
- GSA did not implement the activity. GSA did not track progress in addressing competency gaps because the agency did not assess competencies to identify such gaps. Further, GSA did not monitor its progress in addressing staffing gaps because it did not develop strategies and plans to close the gaps.

Most Agencies Did Not Establish Processes for Reporting Progress in Addressing Gaps in Competencies and Staffing

To fully implement the report to agency leadership on progress activity, an agency should periodically report to agency leadership on progress in implementing strategies and plans to address gaps in competencies. In addition, the agency should periodically report to leadership on progress in implementing strategies and plans to address gaps in staffing.⁴⁰

However, most of the agencies did not establish processes for reporting their progress in addressing competency and staffing gaps. Specifically,

- three agencies had partially implemented the activity (Defense, VA, and SBA),
- three had minimally implemented the activity (HUD, SSA, and USAID), and

⁴⁰Evaluation criteria based on [GAO-17-8](#) and related laws, policies, and guidance.

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- 18 did not implement the activity (Agriculture, Commerce, Education, Energy, HHS, DHS, Interior, Justice, Labor, State, Transportation, Treasury, EPA, GSA, NASA, NSF, NRC, and OPM).

For example:

- VA partially implemented the activity. VA reported to agency leadership on its progress in addressing competency gaps, including the closure of gaps, and the actions planned and taken to address the gaps. However, VA did not report on progress in addressing staffing gaps because it did not implement strategies and plans to address such gaps.
- HUD minimally implemented the activity. HUD reported to agency leadership on the closure of competency gaps from fiscal year 2014 through fiscal year 2016. However, the agency did not monitor or report on its progress in implementing strategies and plans to address gaps in competencies. With respect to staffing, HUD did not report on its progress in addressing gaps because it did not implement strategies and plans to close staffing gaps.
- DHS did not implement the activity. DHS did not periodically report to agency leadership on its progress in addressing competency or staffing gaps. The agency did not do so because it did not develop strategies and plans to address competency and staffing gaps.

Agencies Identified Various Factors That Limited Implementation of Key IT Workforce Planning Activities

Agency officials cited various factors that limited their progress in implementing the key IT workforce planning activities. For example,

- six agencies, including DHS and NRC, reported that they had not completed key activities because they were reliant on finishing other prerequisite activities. For example, officials in DHS's Office of the CIO stated that they had not updated their IT competency needs because they had not yet finished identifying competency requirements for all of the agency's role-based groups;
- four agencies, including HHS and NASA, reported that they had other workforce related priorities, including those related to the Cybersecurity Workforce Assessment Act;
- three agencies, including GSA and USAID, reported that they lacked resources to perform the activities; and
- two agencies (OPM and Interior) reported that leadership turnover affected their implementation of workforce planning activities.

Until agencies make it a priority to implement all of the key IT workforce planning activities, they will likely have a limited ability to assess and address gaps in the knowledge and skills that are critical to the success of major acquisitions. As a result, it will be difficult for agencies to anticipate and respond to changing staffing needs and control human capital risks when developing, implementing, and operating critical IT systems.

Conclusions

The majority of the agencies made significant progress implementing three activities—develop competency and staffing requirements, assess competency and staffing needs regularly, and assess gaps in competencies and staffing—and in doing so took important steps towards identifying the workforce they need to help them achieve their mission, and the gaps that need to be addressed. In contrast, most agencies only minimally implemented or did not implement the remaining five activities, increasing the risk that they will not address the gaps. Agencies' limited implementation of the IT workforce planning activities has been due, in part, to not making IT workforce planning a priority, despite the laws and guidance which have called for them to do so for over 20 years. Until this occurs, agencies will likely not have the staff with the necessary knowledge, skills, and abilities to support the agency's mission and goals.

Recommendations for Executive Action

We are making a total of 18 recommendations to federal agencies—one recommendation to 18 agencies.

- The Secretary of Agriculture should ensure that the agency fully implements each of the eight key IT workforce planning activities it did not fully implement. (Recommendation 1)
- The Secretary of Education should ensure that the agency fully implements each of the seven key IT workforce planning activities it did not fully implement. (Recommendation 2)
- The Secretary of Energy should ensure that the agency fully implements each of the eight key IT workforce planning activities it did not fully implement. (Recommendation 3)
- The Secretary of Homeland Security should ensure that the agency fully implements each of the eight key IT workforce planning activities it did not fully implement. (Recommendation 4)

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- The Secretary of Housing and Urban Development should ensure that the agency fully implements each of the seven key IT workforce planning activities it did not fully implement. (Recommendation 5)
 - The Secretary of the Interior should ensure that the agency fully implements each of the eight key IT workforce planning activities it did not fully implement. (Recommendation 6)
 - The Attorney General should ensure that the agency fully implements each of the eight key IT workforce planning activities it did not fully implement. (Recommendation 7)
 - The Secretary of Labor should ensure that the agency fully implements each of the eight key IT workforce planning activities it did not fully implement. (Recommendation 8)
 - The Secretary of State should ensure that the agency fully implements each of the seven key IT workforce planning activities it did not fully implement. (Recommendation 9)
 - The Secretary of Veterans Affairs should ensure that the agency fully implements each of the five key IT workforce planning activities it did not fully implement. (Recommendation 10)
 - The Administrator of the Environmental Protection Agency should ensure that the agency fully implements each of the eight key IT workforce planning activities it did not fully implement. (Recommendation 11)
 - The Administrator of the General Services Administration should ensure that the agency fully implements each of the seven key IT workforce planning activities it did not fully implement. (Recommendation 12)
 - The Director of the National Science Foundation should ensure that the agency fully implements each of the eight key IT workforce planning activities it did not fully implement. (Recommendation 13)
 - The Chairman of the Nuclear Regulatory Commission should ensure that the agency fully implements each of the seven key IT workforce planning activities it did not fully implement. (Recommendation 14)
 - The Director of the Office of Personnel Management should ensure that the agency fully implements each of the eight key IT workforce planning activities it did not fully implement. (Recommendation 15)
 - The Administrator of the Small Business Administration should ensure that the agency fully implements each of the seven key IT workforce planning activities it did not fully implement. (Recommendation 16)

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- The Commissioner of the Social Security Administration should ensure that the agency fully implements each of the five key IT workforce planning activities it did not fully implement. (Recommendation 17)
 - The Administrator of the U.S. Agency for International Development should ensure that the agency fully implements each of the seven key IT workforce planning activities it did not fully implement. (Recommendation 18)

We are not making new recommendations to six agencies—Commerce, Defense, HHS, Transportation, Treasury, and NASA—because we previously made recommendations to these agencies to address the key IT workforce planning activities.⁴¹

Agency Comments and Our Evaluation

We provided a draft of the report to the 24 CFO Act agencies for their review and comment. Of the 18 agencies to which we made a recommendation in this report, 13 agencies (Energy, DHS, HUD, Interior, Labor, State, VA, GSA, NSF, OPM, SBA, SSA, and USAID) agreed with the recommendation; one agency (Education) partially agreed with the recommendation; three agencies (Agriculture, Justice, EPA) neither agreed nor disagreed with the recommendation; and one agency (NRC) did not agree with our findings. We also received technical comments from a number of the agencies, which we have incorporated into the report, as appropriate.

In addition, of the six agencies to which we did not make recommendations in this report, two (Defense and the Treasury) provided comments on the report and the remaining four (Commerce, HHS, Transportation, and NASA) responded that they did not have any comments on the report.⁴²

The following 13 agencies agreed with our recommendations:

- In written comments (reprinted in appendix III), Energy concurred with our recommendation. The agency stated that it plans to fully implement all of the IT workforce planning activities, and described recently

⁴¹[GAO-17-8](#) and [GAO-18-337](#).

⁴²As previously noted, we made recommendations to Commerce, Defense, HHS, Transportation, and Treasury in [GAO-17-8](#), and to NASA in [GAO-18-337](#).

completed and intended efforts to do so. For example, the agency stated that it completed the development of competency and staffing requirements in May 2019. In addition, the agency said it expects to finish developing an IT workforce planning process in December 2020. While the efforts described represent positive steps toward fully implementing the IT workforce planning activities, Energy did not provide supporting documentation for the activities it said were completed. As a result, we did not change our ratings for these activities.

- In its written comments (reprinted in appendix IV), DHS concurred with our recommendation and stated that it remains committed to fully implementing all of the IT workforce planning activities. Further, the agency stated that it had completed developing competency requirements and assessing gaps for its two remaining IT role based groups. However, the agency did not provide documentation to support its completion of these activities. As a result, we did not change our ratings for the activities.

DHS also stated that the Office of the Chief of Staff Workforce Engagement Division, within the Office of the CIO, plans to work with the agency's Chief Information Officer Council and the Office of Chief Human Capital Officer to form an integrated project team by January 30, 2020. According to DHS, this project team will be charged with discussing the agency's IT workforce planning strategy and outlining an action plan to ensure the strategy addresses all of the key IT workforce planning activities. DHS also provided technical comments which we incorporated, as appropriate.

- In written comments (reprinted in appendix V), HUD concurred with our recommendation and stated that it plans to fully implement the remaining workforce planning activities.
- In its written comments (reprinted in appendix VI), Interior agreed with our recommendation. The agency stated that it has begun taking steps to implement the IT workforce planning activities and plans to fully implement the remaining activities.
- In its written comments (reprinted in appendix VII), Labor concurred with our recommendation. The agency stated that it had made significant progress since the completion of our review and had fully implemented seven of the eight IT workforce planning activities. For example, the agency described efforts to review position descriptions, including identifying key IT competency areas. In addition, the agency stated that it assessed competency and skills needs, and critical IT skill gaps, as part of an IT workforce supply analysis. Further, Labor stated that, in June 2019, it developed hiring approval and prioritization templates, which

require a current workforce and competency assessment, and identified IT competencies with each hiring request. The agency added that hiring managers perform a job analysis prior to posting open positions, and that this includes identifying key IT competencies for each position.

Moreover, Labor stated that, in June 2019, the Secretary approved the use of direct hire authority for IT Specialists. In addition, the agency said that the Office of the CIO and the Chief Human Capital Officer finalized an action plan in March 2019 that identified strategies to address IT workforce gaps. Further, it stated that progress had been monitored in weekly discussions with and oversight from the Chief Information Officer and Chief Human Capital Officer. However, while the actions described indicate progress toward fully implementing the workforce planning activities, the agency did not provide evidence to support the actions it said it had taken. As a result, we did not change our ratings for the activities.

- In written comments (reprinted in appendix VIII), State agreed with our recommendation and described steps it said the agency is taking to implement the IT workforce planning activities. These steps included developing an IT strategic workforce plan that it expected to finalize by the end of fiscal year 2019. Further, the agency stated that it had substantially implemented the report to agency leadership on progress in addressing the competency and staffing gaps activity, which we assessed as not implemented. As evidence, the agency stated that departmental leadership is briefed regularly on efforts made to address IT competency gaps. However, State did not provide supporting documentation for these activities. As a result, we did not change our rating for the activities.
- In written comments (reprinted in appendix IX), VA concurred with our recommendation. However, the agency said it believed that it had fully implemented each of the five IT workforce planning activities we rated as less than fully implemented. Specifically,
 - With regard to establishing and maintaining an IT workforce planning process, VA stated that its Office of Information and Technology had fully implemented a workforce planning process, including developing and implementing strategies to address gaps in competencies and staffing. The agency submitted two documents as supporting evidence: the Office of Information and Technology's Human Capital Management Recruitment Strategy, which we reviewed during our engagement and determined did not sufficiently address the criteria; and the Office of Information and Technology's Human Capital Strategic Plan for fiscal years 2014 through 2020, a document that it had not previously provided

to us. We reviewed this document but have questions we need to follow up on with VA to determine whether the agency has fully implemented the activity. As a result, we did not change our rating for this activity.

- With regard to developing strategies and plans to address gaps in competencies and staffing, VA stated that, for projected staffing gaps, it has developed initial plans for deploying internal employee growth mechanisms. In addition, the agency stated that, because it anticipates no authorized staffing growth for fiscal years 2020 and 2021, the primary focus of its workforce strategies will be on delivering IT services in a growing environment while experiencing no authorized staff growth. Further, the agency stated that, due to its low vacancy rate, its emphasis will change from filling gaps to sustaining services while controlling workforce attrition. While the actions described may be sufficient to fully implement the activity, VA did not provide documented plans to address projected staffing gaps; as a result, we did not change our rating for this activity.
- With regard to implementing activities that address gaps, the agency stated that its Office of Information and Technology Human Capital Management Recruitment Strategy outlines talent acquisition approaches leveraged within the office to address staffing gaps. We analyzed this document during our review and, as noted in our report, found that it identified actions taken to address the prior year's gaps, but it did not provide documentation showing that VA had implemented strategies and plans to address projected staffing gaps. As a result, we did not change our rating for this activity.
- With regard to monitoring the agency's progress in addressing competency and staffing gaps, the agency stated that it has fully implemented the activity because it believes it has fully implemented the aforementioned dependent activities. However, as previously stated, we did not change our ratings for the other activities based on information that VA provided. Accordingly, we did not change our rating for this activity.
- With regard to reporting to agency leadership on progress in addressing competency and staffing gaps, VA stated that, in June 2019, its Office of Information and Technology briefed the agency's Chief Information Officer and senior leadership on the preliminary results of data collection that is expected to ultimately result in a staffing model which accurately depicts the current array of the office's workforce, requirements to perform the

mission, functions, task assigned, and the associated staffing gap. However, the agency did not provide documentation supporting this activity. As a result, we did not change our partially implemented rating designation for the activity.

- In written comments (reprinted in appendix X), GSA agreed with our recommendation and stated that it has established a project team to implement the remaining workforce planning activities.
- In comments provided via email on September 12, 2019, the Liaison to GAO in NSF's Office of the Director, Office of Integrative Activities, stated that the agency agreed with our recommendation. The liaison added that NSF had recently completed an iteration of an IT workforce plan that is to inform its processes going forward, and address many of the IT workforce planning activities. The liaison also stated that NSF recognizes the importance of IT workforce planning and will continue to implement improvements to its processes in this area.
- OPM provided written comments (reprinted in appendix XI) in which the agency stated that it concurred with the recommendation. In addition, the agency stated that, to address its shortcomings, it has partnered with GSA's IT Modernization Center of Excellence to assess the current state of its IT workforce planning activities. The agency stated that this effort is intended to assist with identifying and addressing gaps.
- In its written comments (reprinted in appendix XII), SBA agreed with the recommendation. The agency stated that its Office of Human Resource Solutions and the Office of the CIO will continue unified efforts to fully implement the remaining seven key IT workforce planning activities noted in our report. SBA added that it expects to complete the efforts by the end of fiscal year 2021. SBA also provided technical comments which we incorporated, as appropriate.
- SSA provided written comments (reprinted in appendix XIII) in which it agreed with the recommendation. The agency stated that it planned to finish developing an IT Workforce Strategy by the end of fiscal year 2019, which is to provide a framework to address its future IT workforce needs. In addition, the agency stated that, in fiscal year 2020, it expects to begin implementation of activities to address our findings. SSA also provided technical comments which we incorporated, as appropriate.
- In written comments (reprinted in appendix XIV), USAID stated that it concurred with the recommendation. The agency said that it was taking actions to fully implement each of the seven IT workforce planning activities that we identified as not fully implemented. USAID added that it expects to complete these actions by the end of the first quarter of fiscal year 2021.

One agency—Education—partially agreed with the recommendation. Specifically, in written comments (reprinted in appendix XV), Education stated that it has taken actions to address the workforce planning activities. For example, with regard to the assess competency and staffing needs regularly activity, the agency stated that, in fiscal years 2018 and 2019, it conducted assessments of competency and staffing needs for employees coded as cybersecurity employees. However, the agency did not provide supporting documentation, including documentation showing that it had assessed or updated competency needs since they were originally developed. As a result, we did not change our rating for the activity.

For the assess gaps in competencies and staffing activity, Education stated that it conducted a two-part competency assessment of all employees with cybersecurity responsibilities in March 2019. However, the agency did not provide documentation of the assessment. As a result, we did not change our rating for the activity.

With regard to developing strategies and plans to address gaps in competencies and staffing, Education stated that, in April 2019, it submitted to OPM its action plan to address competency and staffing gaps identified in its Cybersecurity Work Roles of Critical Need report. However, the agency did not provide documentation of the plan. As a result, we did not change our rating for the activity.

In addition, the agency described its planned efforts to fully implement the remaining IT workforce planning activities, including developing an IT workforce planning process and monitoring and reporting on progress in addressing competency and staffing gaps.

Three agencies commented on our findings but did not state whether they agreed or disagreed with our recommendations:

- In comments provided via email on September 6, 2019, the Director of Strategic Planning, Policy, E-government and Audits in Agriculture's Office of the CIO stated that the agency concurred with our findings. In addition, the agency provided technical comments, which we have incorporated in the report as appropriate.
- In comments provided via email on August 26, 2019, an official from Justice's Office of the CIO stated that the agency concurred with our findings.
- In comments provided via email on September 5, 2019, the GAO liaison coordinator for EPA's Office of Mission Support provided comments on

the findings. The agency stated that, in April 2019, it submitted two action plans to address Cybersecurity Work Roles of Critical Need to OPM which it believes address the eight IT workforce planning activities. For example, with regard to the establish and maintain a workforce planning process activity, the agency stated that the workforce action plans present a model on how the agency plans to fill critical needs related to IT and application project management, and information systems security. While the action plans describe efforts to be performed to address gaps for specific work roles of critical need, they do not describe an overall IT workforce planning process for the agency, to include how the agency will continue to develop its competency and staffing requirements, assess for gaps, and develop strategies and plans to address the gaps. As a result, we did not change our rating for the activity.

Further, with regard to the remaining workforce planning activities, the agency stated that the action plans, which it had not previously provided during the course of our review, include actions and milestones focusing on evaluating skill gaps and assessing current training and development opportunities. However, the agency did not provide documentation of the underlying IT competency requirements or competency gap assessments used to identify the gaps. As noted in our report, if an agency has not developed competency requirements, it is not able to implement the subsequent activities relating to competencies. On the other hand, the agency has developed staffing requirements, and as a result we have updated our rating for the staffing evaluation criteria within the develop strategies and plans to address gaps in competencies and staffing activity. However, EPA did not provide documentation showing that it had implemented the strategies and plans to address staffing gaps, or monitored and reported on progress in addressing staff gaps. As a result, we did not change our ratings for these activities.

One agency did not agree with our findings. Specifically, in its written comments (reprinted in appendix XVI), NRC stated that it did not agree with the findings that it had not developed an IT workforce planning process or IT competency requirements. With regard to the IT workforce planning process, we noted in our report that NRC had developed a workforce planning process that addressed all the key IT workforce planning activities; however, we stated that the process did not define the Chief Information Officer's roles and responsibilities for implementing the activities or how the plan aligns with mission goals and objectives. In its response, the agency stated that its Management Directive 9.22, which was not provided to us during our review, defines the Chief Information Officer's roles and responsibilities for implementing activities, including workforce planning by developing and maintaining the agency's

IT/Information Management Strategic Plan and enterprise IT/Information Management roadmap in alignment with the NRC Strategic Plan, and reviewing all positions with IT responsibilities requested in the budget request to ensure the positions meet the ongoing requirements of the agency. We reviewed the directive and determined that it addresses the Chief Information Officer's roles and responsibilities. In addition, NRC identified parts of its workforce planning process, that it believes addresses alignment with mission and goals. We reviewed these parts, and agree with NRC that the plan addresses alignment with mission and goals. We have incorporated the change into this report, including changing the rating from partially implemented to fully implemented for this activity. As a result, we modified the recommendation from fully implementing eight activities NRC did not implement to fully implementing seven activities it did not fully implement.

With regard to developing competency requirements, the agency stated that it specifies competencies for all IT positions in its position descriptions. However, NRC did not provide documentation of the position descriptions or the related competencies. As a result, we are not changing our not implemented rating for this activity. NRC also noted that it has joined other federal agencies to develop career paths and competency models for 64 IT security roles across the federal government, and that this effort is scheduled to be completed in October, at which time the agency will decide which of the models to adopt.

In addition, the following two agencies to which we made recommendations in prior reports provided comments.

- In its written comments (reprinted in appendix XVII), Defense stated that it concurred with the overall contents of the report.
- In comments provided via email on September 5, 2019, an official from Treasury's Office of the CIO stated that the agency agreed with all but two of our findings in this report, associated with three of the activities. First, the agency disagreed with our finding that it minimally implemented the establish and maintain a workforce planning process activity, stating that it has a department-wide workforce planning process that includes the IT workforce. However, while the agency issued a policy in 2013, which we reviewed during our engagement, that directs bureaus to annually conduct workforce planning, it did not define a process for doing so. In addition as we further note, in 2018, the agency issued guidance addressing workforce planning issues for bureaus to consider in developing their own processes. However, this does not constitute an IT workforce planning process. Since Treasury did not provide any

additional evidence of an IT workforce process, we are not changing our rating for this activity. Second, Treasury disagreed with our finding that it did not implement the activities associated with monitoring and reporting on its progress in addressing competency and staffing gaps. Specifically the agency stated that it has designed and begun implementing a new governance structure for workforce management that reinforces the monitoring and reporting of workforce related issues to agency leadership during quarterly performance reviews. However, as we note in our report, the monitoring and reporting activities are dependent on the developing strategies and plans to address competency and staffing gaps activity which Treasury has yet to implement. Until Treasury develops such strategies and plans, it cannot monitor and report on their progress.

We are sending copies of this report to interested congressional committees, the Director of the Office of Management and Budget, the secretaries and agency heads of the departments and agencies addressed in this report, and other interested parties. In addition, this report will be available at no charge on the GAO website at <http://www.gao.gov>.

Should you or your staffs have any questions on information discussed in this report, please contact me at (202) 512-4456 or HarrisCC@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix XVIII.



Carol C. Harris
Director, Information Technology Acquisition Management Issues

List of requesters

The Honorable Jim Jordan
Ranking Member
Committee on Oversight and Reform
House of Representatives

The Honorable Gerald E. Connolly
Chairman
The Honorable Mark Meadows
Ranking Member
Subcommittee on Government Operations
Committee on Oversight and Reform
House of Representatives

The Honorable Will Hurd
House of Representatives

The Honorable Robin L. Kelly
House of Representatives

Appendix I: Objective, Scope, and Methodology

Our objective was to examine the extent to which federal agencies are effectively implementing information technology (IT) workforce planning activities. To address this objective, we relied on practices from GAO's IT workforce planning framework as criteria.¹ The framework identifies eight key IT workforce planning activities that, when effectively implemented, can facilitate the success of major acquisitions. These activities are listed in table 2.

Table 2: Key Information Technology (IT) Workforce Planning Steps and Activities

Set the strategic direction for IT workforce planning

Establish and maintain a workforce planning process

Develop competency and staffing requirements

Analyze the IT workforce to identify skill gaps

Assess competency and staffing needs regularly

Assess gaps in competencies and staffing

Develop strategies and implement activities to address IT skill gaps

Develop strategies and plans to address gaps in competencies and staffing

Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)

Monitor and report progress in addressing IT skill gaps

Monitor the agency's progress in addressing competency and staffing gaps

Report to agency leadership on progress in addressing competency and staffing gaps

Source: [GAO-17-8](#) | GAO-20-129

To ensure consistent understanding and application of the activities in our evaluations, we reviewed the supporting laws, policy, and guidance for each activity and identified specific evaluation criteria. The criteria are listed in table 3.

¹GAO, *IT Workforce: Key Practices Help Ensure Strong Integrated Program Teams; Selected Departments Need to Assess Skill Gaps*, [GAO-17-8](#) (Washington, D.C.: Nov. 30, 2016).. GAO issued the IT workforce planning framework based on relevant laws and guidance issued over the last 20 years, including the Clinger-Cohen Act of 1996; the legislation referred to as the Federal Information Technology Acquisition Reform Act, or FITARA; Office of Management and Budget guidance; and the Office of Personnel Management's Workforce Planning Model, and prior GAO reports.

Table 3: Evaluation Criteria Associated with the Key Information Technology (IT) Workforce Planning Activities

Activity	Evaluation criteria
Establish and maintain a workforce planning process	<ol style="list-style-type: none"> 1. The agency has a documented IT workforce planning process that describes how the agency will implement key IT workforce planning activities, including those identified in the IT workforce planning framework. The process also defines the Chief Information Officer's and others' roles and responsibilities for implementing the activities; is aligned with mission goals and objectives; and addresses both agency-level and component-level workforce, including how the agency is to maintain visibility and oversight into component-level workforce planning efforts (as applicable). 2. The agency periodically updated the process.
Develop competency and staffing requirements	<ol style="list-style-type: none"> 1. The agency has developed a set of competency requirements for its IT workforce, including leadership positions. 2. The agency has developed staffing requirements for its IT workforce, which include projections over several years.
Assess competency and staffing needs regularly	<ol style="list-style-type: none"> 1. The agency periodically assessed competency needs for its IT workforce. 2. The agency periodically assessed staffing needs for its IT workforce.
Assess gaps in competencies and staffing	<ol style="list-style-type: none"> 1. The agency periodically assessed gaps in competencies for its IT workforce. 2. The agency periodically assessed gaps in staffing for its IT workforce.
Develop strategies and plans to address gaps in competencies and staffing	<ol style="list-style-type: none"> 1. The agency developed strategies and plans to address identified competency gaps, including specific actions and milestones that are linked to a gap. 2. The agency developed strategies and plans to address identified staffing gaps, including specific actions and milestones that are linked to a gap.
Implement activities that address gaps	<ol style="list-style-type: none"> 1. The agency has implemented strategies and plans to address identified gaps in competencies and staffing. 2. The agency has implemented other efforts to assist with addressing competency and staffing needs, including the following efforts identified in the Federal Information Technology Acquisition Reform Act: IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities.

Activity	Evaluation criteria
Monitor the agency's progress in addressing competency and staffing gaps	<ol style="list-style-type: none"> 1. The agency tracked progress in the implementation of strategies and plans to address gaps in competencies. 2. The agency tracked progress in the implementation of strategies and plans to address gaps in staffing.
Report to agency leadership on progress in addressing competency and staffing gaps	<ol style="list-style-type: none"> 1. The agency periodically reported to agency leadership on progress in implementing strategies and plans to address gaps in competencies. 2. The agency periodically reported to agency leadership on progress in implementing strategies and plans to address gaps in staffing.

Source: GAO analysis. | GAO-20-129

We reviewed IT workforce planning policies and other workforce planning documentation for each of the 24 Chief Financial Officers Act of 1990 agencies, including workforce planning processes; competency requirements; annual mission critical occupation resource charts required by the Office of Personnel Management (OPM) which document staffing requirements and gap assessments; strategies and plans to address gaps; and reports on progress in addressing gaps.² For the six agencies for which we previously performed IT workforce planning assessments, we reviewed the previously reported information and obtained and analyzed updates, as appropriate.³

We compared the information obtained to our evaluation criteria and identified gaps and their causes. We also interviewed cognizant officials from each of the 24 agencies, to discuss their implementation of the IT workforce planning activities and causes for any gaps. Our review focused on the agency's IT workforce planning efforts at the agency level, including the extent to which the agency maintained visibility and oversight into component-level IT workforce planning. Based on our

²The 24 major federal agencies covered by the Chief Financial Officers Act of 1990 are the Departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Homeland Security, Housing and Urban Development, the Interior, Justice, Labor, State, Transportation, the Treasury, and Veterans Affairs; Environmental Protection Agency; General Services Administration; National Aeronautics and Space Administration; National Science Foundation; Nuclear Regulatory Commission; Office of Personnel Management; Small Business Administration; Social Security Administration; and U.S. Agency for International Development.

³In [GAO-17-8](#), we assessed five agencies, specifically the Departments of Commerce, Defense, Transportation, Treasury, and Health and Human Services. In [GAO-18-337](#), we assessed the National Aeronautics and Space Administration.

assessment of the documentation and discussions with agency officials, we assessed each agency's implementation of our evaluation criteria as:

- fully implemented—the agency provided evidence which showed that it fully or largely addressed the elements of the criteria.
- partially implemented—the agency provided evidence that showed it had addressed at least part of the criteria.
- not implemented—the agency did not provide evidence that it had addressed any part of the criteria.

To determine an overall rating for each of the eight key workforce planning activities, we summarized the results of our assessments of the evaluation criteria. Specifically, we assessed each activity as:

- fully implemented—the agency fully implemented both of an activity's evaluation criteria.
- substantially implemented—the agency fully implemented one of an activity's evaluation criteria and partially implemented the other evaluation criteria.
- partially implemented—the agency fully implemented one of an activity's evaluation criteria and did not implement the other criteria, or partially implemented both of an activity's evaluation criteria.
- minimally implemented—the agency partially implemented one of an activity's evaluation criteria and did not implement the other evaluation criteria.
- not implemented—the agency did not implement either of an activity's evaluation criteria.

We assessed the staffing evaluation criteria for the develop competency and staffing requirements, assess competency and staffing needs regularly, and assess gaps in competencies and staffing activities as fully implemented if agencies provided evidence of a complete mission critical occupation resource chart to meet OPM reporting requirements and were able to demonstrate that the mission critical staff represented most or all of their IT workforce. In addition, we assessed the competency evaluation criteria for these activities as fully implemented if agencies provided evidence that they performed them for most or all of their IT workforce.

For the implement activities that address gaps activity, we assessed agencies as having fully implemented the evaluation criteria on other efforts if they provided evidence as having implemented at least four of

the efforts identified in the Federal Information Technology Acquisition Reform Act (FITARA).⁴ We rated this evaluation criteria as partially implemented if agencies provided evidence of having implemented fewer than four of the efforts.

Finally, in making our assessments, we also considered the extent to which an agency had implemented prerequisite activities. For example, to implement the competency evaluation criteria for the develop strategies and plans to address gaps activity, the agency needed to have also implemented the competency evaluation criteria for the assess gaps in competencies and staffing activity. We did not assess any activity higher than the prerequisite activity.

We also determined if there was a common factor which led to the rating for a particular activity. For example, we noted whether most agencies partially implemented an activity because they had fully implemented one of the evaluation criteria, but had not implemented the other criteria. To determine the reliability of staffing data in the mission critical occupation resource charts, we reviewed the charts for obvious errors and for completeness and obtained clarification from agencies on identified errors. We determined that the data were sufficiently reliable for the purpose of this report, which was to determine the extent to which agencies had implemented the key activities.

We conducted this performance audit from January 2018 to October 2019 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

⁴FITARA identified several efforts that assist agencies with addressing competency and staffing needs, including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities.

Appendix II: Agencies' Implementation of Key IT Workforce Planning Activities

This appendix contains assessments of the extent to which the 24 Chief Financial Officers Act of 1990 agencies implemented each of the eight key IT workforce planning activities identified in GAO's information technology (IT) workforce planning framework.¹

Department of Agriculture

Table 4: The U.S. Department of Agriculture's (Agriculture) Implementation of Key Information Technology (IT) Workforce Planning Key Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Minimally implemented	Agriculture does not have a documented workforce planning process; however, it has begun to develop one. Specifically, the agency developed a guide in 2016 to assist with developing a process. The guide identifies efforts that should be addressed in a workforce plan, including most of the key IT workforce planning activities. Agriculture officials stated that they are currently developing an IT workforce plan and expect to complete it by November 2019.
Develop competency and staffing requirements	Substantially implemented	Agriculture developed competency requirements for four of the 13 IT functional roles that it has identified. Agency officials stated that they expect to finalize competency requirements for the remaining nine roles by the end of calendar year 2019. In addition, the agency developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, it developed staffing targets for its mission critical occupations, which include IT management, in response to the Office of Personnel Management's requirement to submit this information annually.
Assess competency and staffing needs regularly	Partially implemented	Agriculture did not reassess its competency needs since they were initially established. In addition, as previously noted, the agency had only developed requirements for four of the 13 IT roles it had identified. Agriculture has conducted annual assessments of staffing needs for its IT staff. Specifically, it assessed staffing targets for its mission critical occupations, which include IT management.
Assess gaps in competencies and staffing	Substantially implemented	Agriculture assessed gaps in competencies for two of the four IT functional roles for which it has developed competency requirements. In addition, the agency has conducted annual staffing gap assessments for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management.

¹[GAO-17-8](#).

Appendix II: Agencies' Implementation of Key IT Workforce Planning Activities

Key activities	Rating	Description
Develop strategies and plans to address gaps in competencies and staffing	Partially implemented	In 2019, Agriculture developed strategies, including providing training and developing career paths, to address competency gaps identified for two of the 13 IT functional roles. However, it did not develop plans including actions and milestones to carry out the strategies. Further, the agency did not develop strategies to address gaps for its other IT staff because it had not assessed gaps for these other IT roles. In 2019, Agriculture developed strategies to improve recruitment and retention, including collaborating with universities, to address staffing gaps identified for two of its IT functional roles. However, it did not develop plans to carry out the strategies. In addition, the agency did not develop strategies and plans to address staffing gaps for its other IT staff.
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Minimally implemented	Agriculture did not implement its strategies and plans to address identified gaps. However, it implemented other efforts identified the legislation referred to as the Federal Information Technology Acquisition Reform Act that can assist with addressing competency and staffing needs. For example, the agency implemented efforts to strengthen program management, provided cross-functional training of acquisition and program personnel, and utilized special hiring authorities. However, Agriculture did not implement IT acquisition cadres or establish career paths for program managers.
Monitor the agency's progress in addressing competency and staffing gaps	Not implemented	Agriculture did not monitor progress in addressing competency and staffing gaps because, as previously stated, it has not yet implemented strategies and plans to address gaps.
Report to agency leadership on progress in addressing competency and staffing gaps	Not implemented	Agriculture did not report to agency leadership on progress in addressing competency and staffing gaps because, as previously stated, it has not yet implemented strategies and plans to address gaps.

Source: GAO analysis of Agriculture data. | GAO-20-129

Department of Commerce

Table 5: The Department of Commerce's (Commerce) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Minimally implemented	Commerce did not have a documented workforce planning process, but it has begun to develop one. Specifically, Commerce developed a guide in 2017 to assist the agency and bureaus with developing their IT workforce plans. The guide includes activities that should be addressed in the plans, including most of the key IT workforce planning activities in GAO's framework. Commerce officials from the Office of the Chief Information Officer stated that they are currently monitoring the bureaus' implementation of the guide and will develop an agency plan after the bureau plans are finalized. However, they did not provide a time frame for when they expect it to be completed.

**Appendix II: Agencies' Implementation of Key
IT Workforce Planning Activities**

Key activities	Rating	Description
Develop competency and staffing requirements	Substantially implemented	Commerce developed competency requirements for its IT program managers, but did not do so for its remaining IT workforce. The agency developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, it developed staffing targets for its mission critical occupations, which include IT management, in response to the Office of Personnel Management's requirement to submit this information annually.
Assess competency and staffing needs regularly	Partially implemented	Commerce initially developed its competency requirements for its IT program managers in January 2016, but had not since updated its needs. As previously stated, Commerce did not develop competencies for its remaining IT workforce. The agency has conducted annual assessment of staffing needs for its IT staff. Specifically, it assessed staffing targets for its mission critical occupations, which include IT management.
Assess gaps in competencies and staffing	Partially implemented	Commerce did not assess gaps in competencies for its IT program managers. As previously stated, Commerce did not develop competencies for its remaining IT workforce. The agency has conducted annual staffing gap assessments for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management.
Develop strategies and plans to address gaps in competencies and staffing	Not implemented	Commerce did not develop strategies and plans to address gaps in competencies because, as previously stated, it did not assess gaps in competencies. In addition, Commerce did not develop strategies and plans to address gaps in staffing.
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Minimally implemented	While Commerce did not develop strategies and plans to address identified gaps, it implemented other efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with addressing competency and staffing needs. For example, Commerce implemented plans to strengthen program management, and used special hiring authorities. However, it did not implement other activities, including IT acquisition cadres, cross-functional training of acquisition and program personnel, or career paths for program managers.
Monitor the agency's progress in addressing competency and staffing gaps	Not implemented	Commerce did not monitor progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address competency and staffing gaps.
Report to agency leadership on progress in addressing competency and staffing gaps	Not implemented	Commerce did not report to agency leadership on progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address competency and staffing gaps.

Source: GAO analysis of Commerce data. | GAO-20-129

Department of Defense

Table 6: The Department of Defense's (Defense) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Substantially implemented	<p>In June 2018, Defense issued its Human Capital Operating Plan, which documents the agency's workforce planning process, including for the agency's IT workforce, which it refers to as the IT functional community.^a The plan defines roles and responsibilities, including for the functional communities. In addition, Defense defined roles and responsibilities for the functional community managers, which is the Chief Information Officer for the IT functional community. Further, the plan is aligned with the agency's goals and objectives. In addition, the plan documents how the agency will maintain oversight of and visibility into functional community planning efforts. Finally, the plan addresses the key workforce planning activities; however, it calls for the functional communities to develop strategic workforce plans to further define their workforce planning process and the IT functional community has not yet completed its plan or provided a time frame for completion.</p> <p>Also, Defense has periodically updated its IT workforce process. For example, the June 2018 plan replaced Defense's previous workforce plan.</p>
Develop competency and staffing requirements	Fully implemented	<p>Defense developed competency requirements for its IT workforce. Specifically, it developed competency requirements for its mission critical occupations, which include IT management, computer science, and telecommunications.</p> <p>In addition, Defense developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, it developed targets for its mission critical occupations in response to the Office of Personnel Management's requirement to submit this information annually.</p>
Assess competency and staffing needs regularly	Fully implemented	<p>Defense has assessed its competency requirements since they were initially developed. For example, the agency initially developed competency requirements for IT management staff in 2013, and reassessed the competencies in 2014 and 2016. In addition, Defense initially developed competency requirements for its computer science staff in 2013, and then assessed and revised the competency requirements in 2017. According to agency officials, they plan to perform another assessment of the IT competency requirements, but they have not yet determined when it will occur.</p> <p>Defense conducted annual assessments of staffing needs for its IT staff. Specifically, it assessed staffing targets for its mission critical occupations, which include IT management.</p>
Assess gaps in competencies and staffing	Substantially implemented	<p>Defense assessed gaps in competencies for its IT management staff in 2013, 2014, and 2016; for its computer science staff for 2014 and 2017; and for its computer clerk and assistant staff in 2015. However, it has not assessed gaps in competencies for its IT staff since 2017. Defense officials stated that they expect to start scheduling the next gap assessment in 2019; however, they have not yet defined a time frame for doing so.</p> <p>In addition, Defense has conducted annual staffing gap assessments for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management.</p>

**Appendix II: Agencies' Implementation of Key
IT Workforce Planning Activities**

Key activities	Rating	Description
Develop strategies and plans to address gaps in competencies and staffing	Substantially implemented	<p>Defense identified strategies to address competency gaps as a part of its fiscal year 2016 to 2021 Strategic Workforce Plan, including mapping training needs to professional development plans in career programs; however, it did not develop implementation plans for the associated strategies. Further, while the IT functional community's strategic workforce plan is to include strategies to address competency gaps, as previously stated, the agency has not yet developed the plan.</p> <p>In addition, Defense identified plans to address staffing gaps in its fiscal year 2013 to 2018 and fiscal year 2014 to 2019 Strategic Workforce Plans. However, it has not developed strategies and plans to address staffing gaps since 2014. In its fiscal year 2016 to 2021 Strategic Workforce Plan, the agency specified that it has a 15 percent tolerance level in staffing gaps before requiring the development of action plans. More recent IT staffing gaps have not exceeded the tolerance level.</p>
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Substantially implemented	<p>Defense implemented plans to address staffing gaps identified in its fiscal year 2013 to 2018 and fiscal year 2014 to 2019 Strategic Workforce Plans. However, Defense officials did not provide documentation showing that they had implemented the strategies to address competency gaps.</p> <p>In addition, Defense implemented other efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with addressing competency and staffing needs. For example, Defense established an IT acquisition cadre, provided cross-functional training of IT acquisition and program personnel, implemented plans to strengthen program management, and utilized special hiring authorities to fill IT and cyber staffing vacancies.</p>
Monitor the agency's progress in addressing competency and staffing gaps	Partially implemented	<p>Defense did not monitor progress in addressing competency gaps because, as previously stated, it has not yet implemented strategies and plans to address competency gaps.</p> <p>Defense monitored progress in implementing its strategies to address staffing gaps through its fiscal year 2014 to 2019 and fiscal year 2016 to 2021 Strategic Workforce Plans. Further, as previously stated, Defense has not developed strategies and plans to address staffing gaps since then because the gaps did not exceed the tolerance level.</p>
Report to agency leadership on progress in addressing competency and staffing gaps	Partially implemented	<p>Defense did not report to agency leadership on progress in addressing competency gaps because, as previously stated, it has not yet implemented strategies and plans to address competency gaps.</p> <p>Defense reported on progress in implementing its strategies to address staffing gaps through its fiscal year 2014 to 2019 and fiscal year 2016 to 2021 Strategic Workforce Plans. However, as previously stated, Defense has not developed strategies and plans to address staffing gaps since then because the gaps did not exceed the tolerance level.</p>

Source: GAO analysis of Defense data. | GAO-20-129

^aAccording to Defense, a functional community is a group of one or more occupational series or specialties with common functions, competencies, and career paths to accomplish a specific part of the agency's mission.

Department of Education

Table 7: The Department of Education's (Education) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Not implemented	Education did not develop a workforce planning process. Officials from the Office of Management stated that they plan to develop a process based on the Office of Personnel Management's (OPM) workforce planning guide in fiscal year 2019.
Develop competency and staffing requirements	Fully implemented	In fiscal year 2019, Education developed competency requirements for its IT workforce. Specifically, the agency developed competencies for its IT management staff. In addition, Education developed additional competency requirements for IT project and program managers in March 2018. In addition, Education developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, the agency developed staffing targets for its mission critical occupations, which include IT management and program analysts, in response to OPM's requirement to submit this information annually.
Assess competency and staffing needs regularly	Partially implemented	Education did not reassess its IT competency needs since they were originally developed. Education conducted annual assessments of staffing needs for its IT staff. Specifically, the agency assessed staffing targets for its mission critical occupations, which include IT management and program analysts, annually since 2016.
Assess gaps in competencies and staffing	Partially implemented	Education did not assess gaps in competencies for its IT workforce. Agency officials stated that they plan to assess the competencies for gaps and expect to finish the assessment by the end of the fiscal year 2019. In addition, Education has conducted annual staffing gap assessments for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management and program analysts.
Develop strategies and plans to address gaps in competencies and staffing	Not implemented	Education did not develop strategies and plans to address gaps in competencies or staffing. Agency officials stated that they intend to develop strategies and plans to address gaps as part of the IT workforce planning process, which they expect to complete in fiscal year 2019.
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Minimally implemented	While Education did not develop strategies and plans to address identified gaps, it implemented other efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with addressing competency and staffing needs. For example, the agency implemented efforts to strengthen program management, and used special hiring authorities. While officials stated that the agency established a career path for program managers, they did not provide documentation of their efforts. Further, the agency did not implement IT acquisition cadres and cross-functional training of acquisition and program personnel.
Monitor the agency's progress in addressing competency and staffing gaps	Not implemented	Education did not monitor progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.

**Appendix II: Agencies' Implementation of Key
IT Workforce Planning Activities**

Key activities	Rating	Description
Report to agency leadership on progress in addressing competency and staffing gaps	Not implemented	Education did not report to leadership on its progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.

Source: GAO analysis of Education data. | GAO-20-129

Department of Energy

Table 8: The Department of Energy's (Energy) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Minimally implemented	Energy officials stated that their 2015 "Integrated Workforce Planning Facilitation Guide" documents their IT workforce planning process. The guide outlines steps that components are to include in their workforce plans, such as setting a strategic direction, developing competency and staffing requirements, assessing them for gaps, and developing strategies and plans to address competency and staffing gaps. However, it does not address monitoring and reporting to leadership on progress in addressing gaps. In addition, the guide is not aligned with the agency's goals and objectives, and does not describe the Chief Information Officer's roles and responsibilities. Further, Energy did not update the guide since 2015.
Develop competency and staffing requirements	Partially implemented	Energy did not develop competency requirements for its IT staff. According to officials from Energy's Office of the Chief Human Capital Officer, they are currently working with the Office of the Chief Information Officer to develop competencies and they plan to finalize them in fiscal year 2019. Energy developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, the agency developed staffing targets for its mission critical occupations, which included IT management, in response to the Office of Personnel Management's requirement to submit this information annually.
Assess competency and staffing needs regularly	Partially implemented	Energy did not assess competency needs regularly because as previously stated, it did not develop competency requirements. Energy has conducted annual assessments of staffing needs for its IT staff. Specifically, the agency assessed staffing targets for its mission critical occupations, which include IT management.
Assess gaps in competencies and staffing	Partially implemented	Energy did not assess gaps in competencies because, as previously stated, it has not yet developed competencies for its IT staff. Energy has conducted annual staffing gap assessments for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management.
Develop strategies and plans to address gaps in competencies and staffing	Not implemented	Energy did not develop strategies and plans to address gaps in competencies or staffing.

Appendix II: Agencies' Implementation of Key IT Workforce Planning Activities

Key activities	Rating	Description
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Minimally implemented	While Energy did not develop strategies and plans to address identified gaps, it implemented other efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with addressing competency and staffing needs. For example, the agency implemented the use of special hiring authorities. However, it did not implement IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, and plans to strengthen program management.
Monitor the agency's progress in addressing competency and staffing gaps	Not implemented	Energy did not monitor progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.
Report to agency leadership on progress in addressing competency and staffing gaps	Not implemented	Energy did not report to agency leadership on progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.

Source: GAO analysis of Energy data. | GAO-20-129

Department of Health and Human Services

Table 9: The Department of Health and Human Services' (HHS) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Minimally implemented	In May 2016, HHS issued a strategic IT workforce implementation plan which documents its IT workforce planning process. However, the plan addressed some, but not all, key IT workforce planning activities. In addition, it includes time frames that have passed for completing activities and HHS has not yet completed those activities. Officials from the Office of the Chief Information Officer stated that they have been delayed in completing the activities and in updating the time frames due to other competing IT workforce priorities, including addressing the Cybersecurity Workforce Assessment Act requirements and agency initiatives, such as its ReImagine 21st Century HHS effort. In December 2018 they stated that they still intend to meet the objectives of the plan; however, as of May 2019 they did not have plans for updating the time frames.
Develop competency and staffing requirements	Substantially implemented	HHS developed competency requirements for 12 out of the 29 IT workforce functional roles that it identified, and expects to develop competency requirements for the remaining roles by June 2020. HHS is developing the competency requirements as part of a larger effort to develop career paths for each of the 29 IT workforce function roles. ^a In addition, HHS developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, the agency developed staffing targets for its mission critical occupations, which include IT management, in response to the Office of Personnel Management's requirement to submit this information annually.

**Appendix II: Agencies' Implementation of Key
IT Workforce Planning Activities**

Key activities	Rating	Description
Assess competency and staffing needs regularly	Partially implemented	HHS did not assess competency needs regularly. HHS officials stated that they do not plan to update their competency needs until they finish developing competency requirements for all functional roles. HHS conducted annual assessments of staffing needs for its IT staff. Specifically, the agency assessed staffing targets for its mission critical occupations, which include IT management.
Assess gaps in competencies and staffing	Partially implemented	HHS has not yet assessed gaps in competencies. Officials stated that they expect to assess gaps after they finish developing competency requirements for all IT functional work roles. HHS conducted annual staffing gap assessments for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management.
Develop strategies and plans to address gaps in competencies and staffing	Not implemented	HHS did not develop strategies and plans to address gaps in competencies or staffing.
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Partially implemented	While HHS did not develop strategies and plans to address identified gaps, it implemented other efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with addressing competency and staffing needs. For example, the agency implemented efforts to strengthen program management, provided cross-functional training of acquisition and program personnel, established a career path for program managers, and used special hiring authorities. However, it did not implement IT acquisition cadres. In addition, HHS officials stated that they are addressing gaps as a whole through general efforts to improve the cybersecurity workforce and to increase certifications.
Monitor the agency's progress in addressing competency and staffing gaps	Not implemented	HHS did not monitor progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.
Report to agency leadership on progress in addressing competency and staffing gaps	Not implemented	HHS did not report to agency leadership on progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.

Source: GAO analysis of HHS data. | GAO-20-129

^aThe career paths also include, among other things, required key tasks, education and experience requirements, preferred degree types and certifications, career progression and mobility, proficiency targets, and optional training courses.

**Department of Homeland
Security**

Table 10: The Department of Homeland Security's (DHS) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Minimally implemented	DHS does not have a documented IT workforce planning process; however, it has begun to develop one. Specifically, the Office of the Chief Human Capital Officer developed a guide to assist components, including the Office of the Chief Information Officer, with developing workforce plans. The guide includes efforts that should be addressed in the plans, including most of the key IT workforce planning activities. However, DHS's Office of the Chief Information Officer has not yet completed its plan, including how it will maintain visibility and oversight into components' workforce planning efforts for IT staff.
Develop competency and staffing requirements	Substantially implemented	DHS developed competency requirements for two of the four role-based groups of IT staff it has identified. According to officials from the Office of the Chief Information Officer, the agency plans to complete competency requirements for the remaining groups in fiscal year 2019. In addition, DHS developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, the agency developed staffing targets for its mission critical occupations, which include IT management, in response to the Office of Personnel Management's requirement to submit this information annually.
Assess competency and staffing needs regularly	Partially implemented	DHS did not assess competency needs regularly. DHS officials stated that after it finishes developing competency requirements, the agency plans to identify how often it will assess competency needs. In addition, DHS conducted annual assessments of staffing needs for its IT staff. Specifically, the agency assessed staffing targets for its mission critical occupations, which include IT management.
Assess gaps in competencies and staffing	Substantially implemented	As of December 2018, DHS has analyzed competency gaps for the two IT staff groups for which it has identified competencies. However, the department's assessment only included IT staff within the Office of the Chief Information Officer. Officials from the Office of the Chief Information Officer stated that they expect to analyze competency gaps for the remaining two IT staff groups in early calendar year 2019. In addition, DHS conducted annual staffing gap assessments for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management.
Develop strategies and plans to address gaps in competencies and staffing	Not implemented	DHS did not develop strategies and plans to address gaps in competencies or staffing. Officials from the Office of the Chief Information Officer stated that they intend to develop strategies to address competencies gaps after they finish developing competencies for all of their IT roles and assess them for gaps.

Appendix II: Agencies' Implementation of Key IT Workforce Planning Activities

Key activities	Rating	Description
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Partially implemented	While DHS did not develop strategies and plans to address identified gaps, it implemented other efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with addressing competency and staffing needs. For example, the agency implemented efforts to strengthen program management, provided cross-functional training of acquisition and program personnel, established a career path for program managers, and used special hiring authorities.
Monitor the agency's progress in addressing competency and staffing gaps	Not implemented	DHS did not monitor progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.
Report to agency leadership on progress in addressing competency and staffing gaps	Not implemented	DHS did not report to agency leadership on progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.

Source: GAO analysis of DHS data. | GAO-20-129

Department of Housing and Urban Development

Table 11: The Department of Housing and Urban Development's (HUD) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Partially implemented	<p>HUD's Workbook for Workforce Planning, which documents the agency's workforce planning process, addressed some, but not all key IT workforce planning activities. Specifically, the workbook addressed developing competency and staffing requirements and analyzing for gaps, and developing strategies and plans to address gaps. However, it did not address how the agency is to monitor or report to agency leadership on progress in addressing gaps.</p> <p>The workbook is aligned with mission goals and objectives and addressed both the agency and component-level workforce, including how the agency is to maintain visibility and oversight into component-level workforce planning efforts. Further, the workbook identifies certain roles and responsibilities, including for program offices, which include the Office of the Chief Information Officer. Finally, while HUD updated the workbook it in May 2017, it has not done so on a periodic basis.</p>
Develop competency and staffing requirements	Fully implemented	<p>HUD developed competencies for its IT staff, including its IT management staff and project managers.</p> <p>HUD developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, it developed staffing targets for its mission critical occupations, which include IT management, in response to the Office of Personnel Management's requirement to submit this information annually.</p>

**Appendix II: Agencies' Implementation of Key
IT Workforce Planning Activities**

Key activities	Rating	Description
Assess competency and staffing needs regularly	Partially implemented	<p>HUD officials stated that since 2014, when the competency model was initially developed, the competency model has been validated as still being accurate and complete. However, the officials did not provide documentation showing that this validation had occurred. HUD officials stated that they plan to review competencies every 2 years.</p> <p>HUD conducted annual staffing gap assessments for its IT staff. Specifically, the agency assessed staffing gaps of mission critical occupations, which include IT management.</p>
Assess gaps in competencies and staffing	Substantially implemented	<p>HUD assessed gaps in competencies for its IT management staff in fiscal years 2014 and 2016. HUD officials stated that they plan to finalize the fiscal year 2018 assessment by the second quarter of fiscal year 2019. However, HUD has not updated its competency needs regularly to ensure that the underlying gap assessment reflects the agency's current competency needs.</p> <p>In addition, HUD conducted annual assessments of staffing needs for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management.</p>
Develop strategies and plans to address gaps in competencies and staffing	Minimally implemented	<p>HUD has developed strategies and plans to address gaps in competencies. Specifically, its Office of the Chief Information Officer developed a training plan for fiscal years 2017 to 2018, which identified training courses to address specific technical competency gaps. However, as previously stated, HUD has not demonstrated that it has assessed competency needs regularly.</p> <p>In addition, HUD did not develop strategies and plans to address staffing gaps.</p>
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Minimally implemented	<p>While HUD officials stated that they implemented the Office of the Chief Information Officer's training plan which led to the closure of competency gaps, they did not provide documentation showing that the strategies and plans were implemented. HUD did not implement strategies to address staffing gaps because, as previously stated, the agency did not develop strategies and plans to address identified staffing gaps.</p> <p>However, HUD implemented several efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with addressing competency and staffing needs. Specifically, HUD developed a career path for program managers and plans to strengthen program management, but the agency did not develop an IT acquisition cadre, provide cross-functional training of acquisition and program personnel, or use special hiring authorities.</p>
Monitor the agency's progress in addressing competency and staffing gaps	Minimally implemented	<p>While HUD monitored the closure of competency gaps from fiscal years 2014 to fiscal year 2016, it did not monitor the progress in implementation of strategies and plans to address gaps in competencies. HUD officials stated that the Office of the Chief Human Capital Officer does not monitor the program offices' development or implementation of plans; instead, they focus on whether gaps are closed.</p> <p>HUD did not monitor progress in addressing staffing gaps because, as previously stated, it did not yet develop strategies and plans to address staffing gaps.</p>

**Appendix II: Agencies' Implementation of Key
IT Workforce Planning Activities**

Key activities	Rating	Description
Report to agency leadership on progress in addressing competency and staffing gaps	Minimally implemented	<p>While HUD reported to agency leadership on the closure of competency gaps from fiscal years 2014 to fiscal year 2016, it did not report to agency leadership on progress in implementing strategies and plans to address gaps because, as previously stated, it did not monitor the implementation of the strategies and plans to address competency gaps.</p> <p>HUD did not report to agency leadership on progress in addressing staffing gaps because, as previously stated, it did not yet develop strategies and plans to address staffing gaps.</p>

Source: GAO analysis of HUD data. | GAO-20-129

Department of the Interior

Table 12: The Department of the Interior's (Interior) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Minimally implemented	<p>Interior does not have a documented workforce planning process, but it has begun to develop one. Specifically, the agency issued a policy in 2016 that directed bureaus to develop IT workforce plans. The agency stated that it intends for the plans to serve as input into the agency-wide IT workforce plan. The policy includes efforts that should be addressed in the plans, including most of the key IT workforce planning activities. However, the bureau plans and agency-wide plan have not yet been completed. In June 2018, officials from the Office of the Chief Information Officer stated that they expect to finalize both the agency-wide and bureau plans by the end of fiscal year 2019.</p>
Develop competency and staffing requirements	Partially implemented	<p>Interior did not develop competency requirements for its IT staff. According to officials from the Office of Human Resources, the agency completed a competency model for its IT management staff; however, the officials did not provide supporting documentation.</p> <p>Interior developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, it developed staffing targets for its mission critical occupations, which include IT management, in response to the Office of Personnel Management's (OPM) requirement to submit this information annually.</p>
Assess competency and staffing needs regularly	Partially implemented	<p>Interior did not assess competency needs regularly because, as previously stated, it has not yet developed competency requirements.</p> <p>Interior conducted annual assessments of staffing needs for its IT staff. Specifically, it assessed staffing targets for its mission critical occupations, which include IT management.</p>
Assess gaps in competencies and staffing	Partially implemented	<p>Interior did not assess gaps in competencies because it has not yet developed competencies for its IT staff. According to officials, they plan to complete a competency gap assessment by July 2019.</p> <p>In addition, Interior conducted annual staffing gap assessments for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management.</p>

Appendix II: Agencies' Implementation of Key IT Workforce Planning Activities

Key activities	Rating	Description
Develop strategies and plans to address gaps in competencies and staffing	Not implemented	Interior did not develop strategies and plans to address gaps in competencies or staffing. According to Interior officials from the Office of Human Resources, the annual staffing assessments discussed previously are primarily used to inform OPM and they are currently looking at how they can use this data to develop strategies.
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Minimally implemented	While Interior did not develop strategies and plans to address identified gaps, it implemented other efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with addressing competency and staffing needs. For example, Interior used special hiring authorities. However, it did not implement IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, or plans to strengthen program management.
Monitor the agency's progress in addressing competency and staffing gaps	Not implemented	Interior did not monitor progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.
Report to agency leadership on progress in addressing competency and staffing gaps	Not implemented	Interior did not report to agency leadership on progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.

Source: GAO analysis of Interior data. | GAO-20-129

Department of Justice

Table 13: The Department of Justice's (Justice) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Not implemented	Justice has not established a documented IT workforce planning process. Justice officials reported that the agency has an IT workforce process that includes the Chief Information Officer establishing goals and policy for the IT workforce, such as in its IT strategic plan and in a policy on IT workforce oversight, and working with component Chief Information Officers through Justice's Chief Information Officer Council to identify and address emerging IT workforce needs. However, this process is not documented. In February 2019, Justice officials stated that they are establishing an IT workforce committee that will focus on, among other things, developing an IT workforce plan. However, they did not provide a time frame for completion.
Develop competency and staffing requirements	Partially implemented	Justice has not developed competency requirements. According to officials from the Justice Management Division, the agency uses competency requirements established by the Federal Acquisition Institute for IT acquisition and project management personnel, competencies developed by the Office of Personnel Management (OPM), and competencies identified in the National Institute of Standards and Technology's National Initiative for Cybersecurity Education Cybersecurity Workforce Framework. However, Justice officials did not provide documentation showing that the agency has adopted these competencies. Justice developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, it developed staffing targets for its mission critical occupations, which include IT management, in response to OPM's requirement to submit this information annually.

Appendix II: Agencies' Implementation of Key IT Workforce Planning Activities

Key activities	Rating	Description
Assess competency and staffing needs regularly	Partially implemented	Justice did not assess competency needs regularly. As previously stated, Justice did not provide documentation showing that it has developed competency requirements. Justice conducted annual assessments of staffing needs for its IT staff. Specifically, the agency assessed staffing targets for its mission critical occupations, which include IT management.
Assess gaps in competencies and staffing	Partially implemented	Justice did not assess gaps in competencies. As previously stated, Justice did not provide documentation showing that it has developed competency requirements. Justice has conducted annual assessments of staffing needs for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management.
Develop strategies and plans to address gaps in competencies and staffing	Not implemented	Justice did not develop strategies and plans to address gaps in competencies or staffing.
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Minimally implemented	While Justice did not develop strategies and plans to address gaps in competencies or staffing, the agency implemented other efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with preventing and addressing gaps. For example, the agency implemented plans to strengthen program management, including establishing a program management center of excellence, and used special hiring authorities. However, it did not implement IT acquisition cadres, cross-functional training of acquisition and program personnel, or career paths for program managers.
Monitor the agency's progress in addressing competency and staffing gaps	Not implemented	Justice did not monitor progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.
Report to agency leadership on progress in addressing competency and staffing gaps	Not implemented	Justice did not report to agency leadership on progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.

Source: GAO analysis of Justice data. | GAO-20-129

Department of Labor

Table 14: The Department of Labor's (Labor) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Minimally implemented	Labor did not have a documented workforce planning process; however, it has begun to develop one. Specifically, the agency developed a guide in 2017 to assist with developing an IT workforce plan. The guide includes activities that should be addressed in the plan, including most of the key IT workforce planning activities in our framework. Labor officials did not provide a time frame for completing the workforce plan.

**Appendix II: Agencies' Implementation of Key
IT Workforce Planning Activities**

Key activities	Rating	Description
Develop competency and staffing requirements	Partially implemented	Labor did not develop competency requirements. The agency developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, the agency developed staffing targets for its mission critical occupations, which include IT management, in response to the Office of Personnel Management's requirement to submit this information annually.
Assess competency and staffing needs regularly	Partially implemented	Labor did not assess competency needs regularly because, as previously stated, it did not develop competency requirements. Labor conducted annual assessments of staffing needs for its IT staff. Specifically, the agency assessed staffing targets for its mission critical occupations, which include IT management.
Assess gaps in competencies and staffing	Partially implemented	Labor did not assess gaps in competencies. As previously stated, Labor did not develop competency requirements. Labor conducted annual staffing gap assessments for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management.
Develop strategies and plans to address gaps in competencies and staffing	Not implemented	Labor did not develop strategies and plans to address gaps in competencies because, as previously stated, the agency did not assess gaps in competencies. In addition, Labor did not develop strategies and plans to address gaps in staffing.
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Minimally implemented	While Labor did not develop strategies and plans to address identified gaps, it implemented other efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with addressing competency and staffing needs. For example, Labor used special hiring authorities. Labor officials stated that the agency had implemented IT acquisition cadres, and career paths for program management; however, they did not provide supporting documentation. Further, Labor did not implement cross-functional training of acquisition and program personnel, or plans to strengthen program management.
Monitor the agency's progress in addressing competency and staffing gaps	Not implemented	Labor did not monitor progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.
Report to agency leadership on progress in addressing competency and staffing gaps	Not implemented	Labor did not report to agency leadership on progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.

Source: GAO analysis of Labor data. | GAO-20-129

Department of State

Table 15: The Department of State's (State) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Minimally implemented	In 2016, State developed a Five Year Workforce and Leadership Succession Plan which documents its IT workforce planning process. The plan addresses key IT workforce planning activities associated with staffing, including identifying staffing requirements, assessing for gaps, developing and implementing strategies and plans to address gaps, and monitoring progress. In addition, the plan is aligned with the agency's mission goals and objectives. However, the plan does not address activities associated with competencies, including developing competency requirements, regularly assessing competency needs, and assessing competency gaps. In addition, the plan does not define the roles and responsibilities of the Chief Information Officer. Officials from the Bureau of Information Resource Management stated that they are developing a new IT workforce planning process; however, they did not provide a timeline for completion.
Develop competency and staffing requirements	Fully implemented	State developed competency requirements for its IT staff, including both its civil service and foreign service IT workforce. In addition, the agency developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, the agency developed staffing targets for its mission critical occupations, which include IT management, in response to the Office of Personnel Management's requirement to submit this information annually.
Assess competency and staffing needs regularly	Partially implemented	State has not reassessed its competency needs for foreign and civil service IT staff since they were developed in 2016 and 2017, respectively. However, officials from the Bureau of Information Resource Management stated that they expect to reassess IT competency needs every 5 years, with the next assessment occurring in 2021. State conducted annual assessments of staffing needs for its IT staff. Specifically, the agency assessed staffing targets for its mission critical occupations, which include IT management.
Assess gaps in competencies and staffing	Substantially implemented	State assessed gaps in competencies for its foreign service IT workforce in 2016 and for its civil service IT workforce in 2017; however, the agency has not reassessed these gaps since. Officials from the Bureau of Information Resource Management stated that they expect to perform a gap assessment every 5 years, with the next assessment occurring in 2021. State conducted annual staffing gap assessments for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management.

Appendix II: Agencies' Implementation of Key IT Workforce Planning Activities

Key activities	Rating	Description
Develop strategies and plans to address gaps in competencies and staffing	Substantially implemented	<p>State identified recommended actions to address high priority IT competency gaps through training, quarterly reviews of IT workforce issues, and improved hiring processes; however, the agency did not develop implementation plans for the actions.</p> <p>State identified strategies and plans to address staffing gaps in its Five Year Workforce and Leadership Success Plan for Fiscal Year 2016 through 2020. For example, State identified using special hiring initiatives, such as its Pathways Programs, to address staffing gaps. In addition, the agency developed the Foreign Affairs IT Fellowship Program which is intended to recruit students by offering internships.</p>
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Partially implemented	<p>State officials reported that they took steps to implement the recommended actions to address competency and staffing gaps, but had not yet finalized any of those efforts. Further, the agency did not provide a timeline for completion.</p> <p>State implemented other efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with addressing competency and staffing needs. For example, State implemented the use of special hiring authorities and plans to strengthen program management. However, it did not implement IT acquisition cadres, cross-functional training of acquisition and program personal, or career paths for program managers. Officials from the Bureau of Information Resource Management stated that the agency is in the process of implementing IT acquisition cadres and discussing cross-functional training of acquisition and program personnel, but did not provide a time frame for completion.</p>
Monitor the agency's progress in addressing competency and staffing gaps	Minimally implemented	<p>While State monitored progress with implementing recommended actions to address competency gaps, the agency did not monitor progress in closing these gaps.</p> <p>State has not monitored progress in addressing staffing gaps.</p>
Report to agency leadership on progress in addressing competency and staffing gaps	Not implemented	State did not report to agency leadership on progress in addressing competency or staffing gaps.

Source: GAO analysis of State data. | GAO-20-129

Department of Transportation

Table 16: The Department of Transportation's (Transportation) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Minimally implemented	Transportation did not develop a documented workforce planning process; however, the agency issued an IT workforce strategy in December 2018 which called for the development of a workforce planning process and summarized the results of an assessment of the agency's IT workforce.

**Appendix II: Agencies' Implementation of Key
IT Workforce Planning Activities**

Key activities	Rating	Description
Develop competency and staffing requirements	Fully implemented	<p>Transportation developed competency requirements for its IT staff. Specifically, the agency developed requirements for its IT management staff.</p> <p>In addition, Transportation developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, the agency developed staffing targets for its mission critical occupations, which include IT management, in response to the Office of Personnel Management's requirement to submit this information annually.</p>
Assess competency and staffing needs regularly	Partially implemented	<p>Transportation did not assess its competency needs since they were initially developed in 2016.</p> <p>Transportation conducted annual assessments of staffing needs for its IT staff. Specifically, the agency assessed staffing targets for its mission critical occupations, which include IT management.</p>
Assess gaps in competencies and staffing	Substantially implemented	<p>Transportation assessed gaps in competencies for its IT staff in 2016; however, the agency has not reassessed these gaps since 2016. Officials from the Office of Human Resources stated that they plan to perform the next gap assessment in 2019.</p> <p>Transportation conducted annual staffing gap assessments for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management.</p>
Develop strategies and plans to address gaps in competencies and staffing	Minimally implemented	<p>While Transportation did not develop strategies and plans to address gaps in competencies or staffing at the agency level, one of its operating administrations, the Pipeline and Hazardous Materials Safety Administration, developed strategies to address competency gaps identified in the agency's competency gap assessment. However, as previously stated, the agency has not performed a competency gap assessment since 2016 to ensure that strategies and plans reflect the agency's current competency gaps. Further, Transportation did not develop strategies and plans to address gaps in staffing.</p>
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Minimally implemented	<p>Transportation officials reported that the Pipeline and Hazardous Materials Safety Administration had implemented the strategies to address gaps in competencies. However, Transportation did not provide supporting documentation. In addition, as previously stated, Transportation did not develop strategies and plans for its other operating administrations, nor did it develop strategies and plans to address gaps in staffing.</p> <p>Transportation implemented other efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with addressing competency and staffing needs. For example, it implemented efforts to strengthen program management. However, it did not implement IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, or use special hiring authorities.</p>
Monitor the agency's progress in addressing competency and staffing gaps	Minimally implemented	<p>In 2017, Transportation monitored progress in addressing competency gaps, but did not monitor progress since then. Specifically, according to officials from the Office of Human Resources Management, 6 months after completing the gap assessment they surveyed each of the components to determine what strategies were implemented to close the competency gaps. However, they have not monitored progress since then.</p> <p>Transportation did not monitor progress in addressing staffing gaps because, as previously stated, it did not develop strategies and plans to address staffing gaps.</p>

**Appendix II: Agencies' Implementation of Key
IT Workforce Planning Activities**

Key activities	Rating	Description
Report to agency leadership on progress in addressing competency and staffing gaps	Not implemented	Transportation did not report to agency leadership on progress in addressing competency and staffing gaps. As previously stated, Transportation did not provide documentation showing that strategies were implemented to address gaps in competencies. In addition, it did not develop strategies and plans to address staffing gaps.

Source: GAO analysis of Transportation data. | GAO-20-129

Department of the Treasury

Table 17: The Department of the Treasury's (Treasury) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Minimally implemented	Treasury did not have a documented IT workforce planning process. However, in 2018, the agency issued guidance addressing workforce planning issues for bureaus to consider in developing their own processes. In addition, in July 2018, officials stated they were evaluating enterprise-wide strategies and tools that they intend to use to help develop an IT workforce planning process. However, they did not provide a time frame for completing the process.
Develop competency and staffing requirements	Fully implemented	Treasury developed competency requirements for its IT staff. Specifically, in 2016, the agency developed competency requirements for its IT program managers, and in 2017, it developed competency requirements for its IT management staff. In addition, Treasury developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, the agency developed staffing targets for its mission critical occupations, which include IT management, in response to the Office of Personnel Management's requirement to submit this information annually.
Assess competency and staffing needs regularly	Partially implemented	Treasury did not update its competency needs for project manager or IT management staff since they were initially developed. Treasury conducted annual assessments of staffing needs for its IT staff. Specifically, the agency assessed staffing targets for its mission critical occupations, which include IT management.
Assess gaps in competencies and staffing	Partially implemented	Treasury did not assess gaps in competencies. According to Treasury officials from the Office of the Chief Information Officer, the agency expects to assess all mission critical occupations for competency gaps, including for IT management, in fiscal year 2020. Treasury conducted annual staffing gap assessments for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management.
Develop strategies and plans to address gaps in competencies and staffing	Not implemented	Treasury did not develop strategies and plans to address gaps in competencies or staffing.

Appendix II: Agencies' Implementation of Key IT Workforce Planning Activities

Key activities	Rating	Description
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Partially implemented	While Treasury did not develop strategies and plans to address identified gaps, it implemented other efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with addressing competency and staffing needs. For example, the agency established an IT acquisition cadre, provided cross-functional training of acquisition and program personnel, took steps to strengthen program management, and used special hiring authorities.
Monitor the agency's progress in addressing competency and staffing gaps	Not implemented	Treasury did not monitor progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.
Report to agency leadership on progress in addressing competency and staffing gaps	Not implemented	Treasury did not report to agency leadership on progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.

Source: GAO analysis of Treasury data. | GAO-20-129

Department of Veterans Affairs

Table 18: The Department of Veterans Affairs' (VA) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Minimally implemented	VA's Office of Information and Technology developed a workforce planning process, including a staffing model in July 2017 and a Strategic Workforce Plan for Fiscal Year 2019 to Fiscal Year 2023 in November 2017, that addressed some but not all key IT workforce planning activities. Specifically, the process addressed developing competency and staffing requirements, and assessing them for gaps. However, it did not address developing strategies and plans to address competency and staffing gaps, or monitoring and reporting to leadership on progress in addressing gaps. In addition, the process was aligned with the agency's goals and activities and described the Chief Information Officer's roles and responsibilities. Further, according to officials in the Office of Information and Technology, all IT staff is within the Office of Information and Technology, and thus no additional oversight of components was needed. However, because it is a new process, VA has not yet updated it.
Develop competency and staffing requirements	Fully implemented	VA developed competency requirements for its IT staff. In addition, VA developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, the agency developed staffing targets for its mission critical occupations, which include IT management, in response to the Office of Personnel Management's (OPM) requirement to submit this information annually.

**Appendix II: Agencies' Implementation of Key
IT Workforce Planning Activities**

Assess competency and staffing needs regularly	Fully implemented	<p>VA annually assesses competency needs within its Office of Information and Technology as a part of its professional development planning process. For example, the agency performed an assessment in fiscal year 2017, which led to adding project management as a competency for all IT staff. In addition, another assessment in fiscal year 2018 resulted in adding two new competencies—data analytics and risk management.</p> <p>VA conducted annual assessments of staffing needs for its IT staff. Specifically, the agency assessed staffing targets for its mission critical occupations, which include IT management.</p>
Assess gaps in competencies and staffing	Fully implemented	<p>VA assesses gaps in competencies on an annual basis, as a part of its electronic individual development plan process.</p> <p>In addition, VA conducted annual staffing gap assessments for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management.</p>
Develop strategies and plans to address gaps in competencies and staffing	Substantially implemented	<p>VA developed strategies and plans to address gaps in competencies. Specifically, VA developed recommended actions to address gaps, and employees and their supervisors identified training that will assist with closing individual gaps.</p> <p>In addition, the agency developed strategies and plans to address current gaps in staffing; but has not for projected gaps. Specifically, VA's Office of Information and Technology developed a Human Capital Management Recruitment Strategy in 2018 that detailed strategies and plans to address vacancies, such as creating a feeder pool of entry-level applicants. However, the agency has not developed strategies and plans to address projected staffing gaps, including the gaps identified in response to OPM's annual reporting requirement.</p>
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Substantially implemented	<p>VA implemented strategies and plans to address gaps in competencies. For example, in its Office of Information and Technology Training Gap Analysis report, VA identified actions taken to address the prior year's gaps. These actions included developing additional training courses, as well as providing on-the-job training activities. However, the agency did not provide documentation showing that it had implemented strategies and plans to address identified staffing gaps.</p> <p>VA implemented other efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with addressing competency and staffing needs. Specifically, the agency implemented an IT acquisition cadre, developed plans to strengthen program management, developed a career path for program managers, and used special hiring authorities.</p>
Monitor the agency's progress in addressing competency and staffing gaps	Partially implemented	<p>VA tracked progress in implementing strategies and plans to address gaps in competencies. Specifically, the agency monitored the closure of competency gaps, including the actions taken to address the gaps.</p> <p>While VA tracked the new hires to address its staffing gaps, as previously stated, the agency did not provide documentation showing that it had implemented the strategies to address identified staffing gaps.</p>
Report to agency leadership on progress in addressing competency and staffing gaps	Partially implemented	<p>VA reported to agency leadership on progress in addressing competency gaps, including the closure of gaps, and the actions planned and taken to address the gaps.</p> <p>VA did not report to agency leadership on progress in addressing staff gaps.</p>

Source: GAO analysis of VA data. | GAO-20-129

Environmental Protection Agency

Table 19: The Environmental Protection Agency's (EPA) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Not implemented	EPA did not develop a documented IT workforce planning process.
Develop competency and staffing requirements	Partially implemented	EPA did not develop competency requirements for its IT workforce. In 2018, EPA developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, it developed staffing targets for its mission critical occupations, which include IT management, in response to the Office of Personnel Management's (OPM) requirement to submit this information annually.
Assess competency and staffing needs regularly	Not implemented	EPA did not assess competency needs regularly because as previously stated, it did not develop competency requirements for its IT workforce. While EPA developed staffing targets in 2018, agency officials did not provide documentation that it had regularly assessed staffing needs over time.
Assess gaps in competencies and staffing	Minimally implemented	EPA did not assess gaps in competency because, as previously stated, it did not develop competency requirements for its IT workforce. In 2018, EPA conducted a staffing gap assessment for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management. However, agency officials did not provide documentation that it had assessed staffing gaps in prior years in response to OPM's requirement to submit this information annually.
Develop strategies and plans to address gaps in competencies and staffing	Minimally implemented	EPA did not develop strategies and plans to address gaps in competencies. In April 2019, EPA submitted two action plans to address Cybersecurity Work Roles of Critical Need to the Office of Personnel Management. These action plans included strategies and plans to address gaps in staffing. However, as previously stated, EPA did not provide documentation that it had assessed staffing gaps in prior to 2018, in response to OPM's requirement to submit this information annually.
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Minimally implemented	While EPA has not developed strategies and plans to address gaps in competencies or staffing, it implemented other efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with preventing and addressing gaps. For example, the agency used special hiring authorities. However, it has not yet implemented other activities, including IT acquisition cadres, cross-functional training of acquisition and program personnel, efforts to strengthen program management, or career paths for program managers.
Monitor the agency's progress in addressing competency and staffing gaps	Not implemented	EPA did not monitor progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.
Report to agency leadership on progress in addressing competency and staffing gaps	Not implemented	EPA did not report to agency leadership on progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.

Source: GAO analysis of EPA data. | GAO-20-129

**General Services
Administration**

Table 20: The General Services Administration's (GSA) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Not implemented	According to officials from the Human Capital Strategic Planning Division, GSA did not have a documented IT workforce planning process but instead follows the process described in the Office of Personnel Management's (OPM) IT workforce planning guidance. However, the officials did not provide documentation supporting their claim. In addition, our review of the OPM guidance showed that it does not address how agencies are to implement the workforce planning activities.
Develop competency and staffing requirements	Fully implemented	In 2016, GSA developed competency requirements for its IT management staff. In addition, GSA developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, the agency developed staffing targets for its mission critical occupations, which include IT management and telecommunications, in response to OPM's requirement to submit this information annually.
Assess competency and staffing needs regularly	Partially implemented	GSA did not update its IT management competency needs since they were initially developed. According to agency officials they expect to update the competencies in fiscal year 2019. GSA conducted annual assessments of staffing needs for its IT staff. Specifically, the agency assessed staffing targets for its mission critical occupations, which include IT management and telecommunications.
Assess gaps in competencies and staffing	Substantially implemented	In 2016, GSA assessed competency gaps for most of its IT staff. Specifically, the agency assessed gaps for its IT management staff within the Office of the Chief Information Officer, the Federal Acquisition Service's Assisted Acquisition Services, and Office of Information Technology. However, the agency has not reassessed these gaps since 2016. According to agency officials from the Human Capital Strategic Planning Division, as part of the agency's broader workforce planning efforts to focus on mission critical occupations, GSA is currently assessing competency gaps for IT staff within two of its offices and expects to complete the assessment by the end of fiscal year 2019. GSA conducted annual staffing gap assessments for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which included IT management and telecommunications.
Develop strategies and plans to address gaps in competencies and staffing	Minimally implemented	While GSA's 2016 IT competency gap assessment report included recommended actions to address its three major findings, such as leveraging programs across the federal government to help the IT staff to improve project management skills, the agency did not develop plans to implement them. GSA did not develop strategies and plans to address gaps in staffing.

Appendix II: Agencies' Implementation of Key IT Workforce Planning Activities

Key activities	Rating	Description
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Minimally implemented	GSA did not implement the strategies to address competency gaps. Further, as previously stated, the agency did not develop strategies and plans to address identified gaps in staffing. However, it implemented other efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with addressing competency and staffing needs. For example, GSA used special hiring authorities. However, it did not establish IT acquisition cadres, develop cross-functional training of acquisition and program personnel, develop career paths for program managers, or develop plans to strengthen program management.
Monitor the agency's progress in addressing competency and staffing gaps	Not implemented	GSA did not monitor progress in addressing competency and staffing gaps because, as previously stated, it did not implement strategies and plans to address competency gaps, and did not develop strategies and plans to address staffing gaps.
Report to agency leadership on progress in addressing competency and staffing gaps	Not implemented	GSA did not report to agency leadership on progress in addressing competency and staffing gaps because, as previously stated, it did not implement strategies and plans to address competency gaps, and did not develop strategies and plans to address staffing gaps.

Source: GAO analysis of GSA data. | GAO-20-129

National Aeronautics and Space Administration

Table 21: The National Aeronautics and Space Administration's (NASA) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Not implemented	NASA did not have a documented IT workforce planning process. While the agency previously developed a draft IT workforce plan, it was never finalized and is not currently being used. NASA officials stated that they plan to develop a workforce plan in calendar year 2019.
Develop competency and staffing requirements	Fully implemented	NASA developed competency requirements for all IT staff. In addition, NASA developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, it developed staffing targets for its mission critical occupations, which include IT management, in response to the Office of Personnel Management's requirement to submit this information annually.
Assess competency and staffing needs regularly	Partially implemented	NASA officials stated that they had not reassessed the competency needs for its IT staff since they were initially developed in 2015. NASA conducted annual assessments of staffing needs for its IT staff. Specifically, the agency assessed staffing targets for its mission critical occupations, which include IT management.
Assess gaps in competencies and staffing	Substantially implemented	In 2015, NASA assessed competency gaps for its IT staff; however, it has not performed an assessment since then. NASA conducted annual staffing gap assessments for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management.

Appendix II: Agencies' Implementation of Key IT Workforce Planning Activities

Key activities	Rating	Description
Develop strategies and plans to address gaps in competencies and staffing	Not implemented	While NASA identified potential strategies and plans to close gaps in competencies in its 2015 draft IT workforce plan, as previously stated, the plan was not finalized. NASA did not develop strategies and plans to address staffing gaps.
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Minimally implemented	NASA did not implement strategies and plans to address competency or staffing gaps because, as previously stated, NASA did not finalize its strategies and plans to address gaps in competencies, or develop strategies and plans to address gaps in staffing. However, the agency implemented other efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with addressing competency and staffing needs. For example, NASA used special hiring authorities, but it did not implement IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, or plans to strengthen program management.
Monitor the agency's progress in addressing competency and staffing gaps	Not implemented	NASA did not monitor progress in addressing competency and staffing gaps because, as previously stated, it did not implement strategies and plans to address gaps.
Report to agency leadership on progress in addressing competency and staffing gaps	Not implemented	NASA did not report to agency leadership on progress in addressing competency and staffing gaps because, as previously stated, it did not implement strategies and plans to address gaps.

Source: GAO analysis of NASA data. | GAO-20-129

National Science Foundation

Table 22: The National Science Foundation's (NSF) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Not implemented	NSF did not develop a documented IT workforce planning process. NSF officials from the Office of Information and Resource Management stated that they are developing a process; however, they did not provide a timeline for completion.
Develop competency and staffing requirements	Partially implemented	NSF did not develop competency requirements. NSF developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, the agency developed staffing targets for its mission critical occupations, which include IT management, in response to the Office of Personnel Management's requirement to submit this information annually.
Assess competency and staffing needs regularly	Partially implemented	NSF did not assess competency needs regularly because, as previously stated, it did not develop competency requirements. NSF conducted annual assessments of staffing needs for its IT staff. Specifically, the agency assessed staffing targets for its mission critical occupations, which include IT management.

Appendix II: Agencies' Implementation of Key IT Workforce Planning Activities

Key activities	Rating	Description
Assess gaps in competencies and staffing	Partially implemented	NSF did not assess gaps in competencies because, as previously stated, it did not develop competency requirements. NSF conducted annual staffing gap assessments for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management.
Develop strategies and plans to address gaps in competencies and staffing	Not implemented	NSF did not develop strategies and plans to address gaps in competencies because, as previously stated, it did not develop competency requirements. NSF did not develop strategies and plans to address gaps in staffing.
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Minimally implemented	While NSF did not develop strategies and plans to address identified gaps, it implemented other efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with addressing competency and staffing needs. For example, the agency used special hiring authorities. However, it did not implement IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, or plans to strengthen program management.
Monitor the agency's progress in addressing competency and staffing gaps	Not implemented	NSF did not monitor progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.
Report to agency leadership on progress in addressing competency and staffing gaps	Not implemented	NSF did not report to agency leadership on progress in addressing competency and staffing gaps because, as previously stated, it did not yet develop strategies and plans to address gaps.

Source: GAO analysis of NSF data. | GAO-20-129

Nuclear Regulatory Commission

Table 23: The Nuclear Regulatory Commission's (NRC) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Fully implemented	In February 2016, NRC developed a strategic workforce plan that addressed all key IT workforce planning activities in our framework. In addition, the process was aligned with the agency's goals and objectives. Further, the process included general roles and responsibilities, including for the Office of the Chief Human Capital Officer, Senior Management, and its component offices. Moreover, the agency's Management Directive 9.22 further defined the Chief Information Officer's roles and responsibilities with regards to IT workforce planning. NRC has periodically updated the process. For example, the agency updated the process in July 2017 to better integrate its workload projection, skills identification, human capital management, individual development, and workforce management activities.

Appendix II: Agencies' Implementation of Key IT Workforce Planning Activities

Key activities	Rating	Description
Develop competency and staffing requirements	Partially implemented	NRC did not develop competency requirements for its IT staff. NRC officials stated that they have initiated a competency modeling initiative, which they expect to complete by the end of fiscal year 2019. NRC developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, the agency developed staffing targets for its mission critical occupations, which include IT management, in response to the Office of Personnel Management's requirement to submit this information annually.
Assess competency and staffing needs regularly	Partially implemented	NRC did not assess competency needs regularly because, as previously stated, it did not develop competency requirements for its IT staff. NRC conducted annual assessments of staffing needs for its IT staff. Specifically, the agency assessed staffing targets for its mission critical occupations, which include IT management.
Assess gaps in competencies and staffing	Partially implemented	NRC did not assess gaps in competencies because, as previously stated, it did not develop competency requirements for its IT staff. The agency conducted annual staffing gap assessments for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management.
Develop strategies and plans to address gaps in competencies and staffing	Not implemented	NRC did not develop strategies and plans to address gaps in competencies because, as previously stated, it did not develop competency requirements for IT staff. NRC did not develop strategies and plans to address gaps in staffing.
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Minimally implemented	While NRC did not develop strategies and plans to address identified gaps, it implemented other efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with addressing competency and staffing needs. For example, the agency implemented IT acquisition cadres and cross-functional training of acquisition and program personnel. While NRC officials stated that they had implemented plans to strengthen program management, they did not provide documentation of their efforts. Further, the agency did not develop career paths for program managers or implement the use of special hiring authorities.
Monitor the agency's progress in addressing competency and staffing gaps	Not implemented	NRC did not monitor progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.
Report to agency leadership on progress in addressing competency and staffing gaps	Not implemented	NRC did not report to agency leadership on progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.

Source: GAO analysis of NRC data. | GAO-20-129

Office of Personnel Management

Table 24: The Office of Personnel Management's (OPM) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
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**Appendix II: Agencies' Implementation of Key
IT Workforce Planning Activities**

Key activities	Rating	Description
Establish and maintain a workforce planning process	Not implemented	OPM did not establish an IT workforce planning process. According to the Deputy Chief Information Officer, the agency does not have plans to establish one in the near future.
Develop competency and staffing requirements	Partially implemented	OPM did not develop competency requirements for its IT staff. OPM officials stated that they developed IT competency requirements for each functional role. However, they did not provide documentation of the competencies. OPM developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, the agency developed staffing targets for its mission critical occupations, which include IT management, in response to a requirement to submit this information annually.
Assess competency and staffing needs regularly	Partially implemented	OPM did not assess competency needs regularly because, as previously stated, it did not develop competency requirements. OPM conducted annual assessments of staffing needs for its IT staff. Specifically, the agency assessed staffing targets for its mission critical occupations, which include IT management, in response to a requirement to submit this information annually.
Assess gaps in competencies and staffing	Partially implemented	OPM did not assess gaps in competencies because, as previously stated, it did not develop competencies for its IT staff. OPM conducted annual staffing gap assessments for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management.
Develop strategies and plans to address gaps in competencies and staffing	Not implemented	OPM did not develop strategies and plans to address gaps in competencies or staffing.
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Minimally implemented	While OPM did not develop strategies and plans to address gaps in competencies or staffing, the agency implemented other efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with preventing and addressing gaps. For example, the agency implemented the use of special hiring authorities. However, it did not implement IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, and plans to strengthen program management.
Monitor the agency's progress in addressing competency and staffing gaps	Not implemented	OPM did not monitor progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.
Report to agency leadership on progress in addressing competency and staffing gaps	Not implemented	OPM did not report to agency leadership on progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address gaps.

Source: GAO analysis of OPM data. | GAO-20-129

Small Business Administration

Table 25: The Small Business Administration's (SBA) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Partially implemented	In April 2018, SBA released its Fiscal Year 2018 to 2020 IT Workforce Plan that addressed all key IT workforce planning activities and was aligned with the agency's goals and objectives. In addition, in April 2018, SBA released its IT Change Management and Communication Plan that identified roles and responsibilities, including for the Chief Information Officer. However, SBA has not yet updated the Workforce Plan as it was recently issued.
Develop competency and staffing requirements	Fully implemented	SBA developed competency requirements for its IT staff as a part of its 2018 to 2020 IT Workforce Plan. In addition, SBA developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, it developed staffing targets for its mission critical occupations, which include IT management, in response to the Office of Personnel Management's requirement to submit this information annually.
Assess competency and staffing needs regularly	Partially implemented	SBA did not assess competency needs regularly because they were recently developed. SBA conducted annual assessments of staffing needs for its IT staff. Specifically, the agency assessed staffing targets for its mission critical occupations, which include IT management.
Assess gaps in competencies and staffing	Substantially implemented	In March 2018, SBA performed its first assessment of gaps in competencies for its IT staff, and thus has not done so periodically. In addition, SBA conducted annual staffing gap assessments for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management.
Develop strategies and plans to address gaps in competencies and staffing	Substantially implemented	SBA developed strategies and plans to address gaps in competencies and staffing. Specifically, SBA identified objectives with associated actionable strategies to close competency and staffing gaps identified in the assessment of its future state of the IT workforce as part of its 2018 to 2020 Workforce Plan. However, as previously stated, SBA has not yet assessed competency needs regularly or assessed gaps in competencies periodically.

Appendix II: Agencies' Implementation of Key IT Workforce Planning Activities

Key activities	Rating	Description
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Partially implemented	SBA has started to implement strategies and plans to address gaps in competencies and staffing. For example, in its December 2018 monthly Chief Information Officer Forum, SBA identified several actions taken, including establishing an IT Career Manager position responsible for the IT workforce training and development program. However, the agency has not yet implemented many of its identified strategies and plans, but plans to do so by the end of fiscal year 2019. SBA implemented other efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with preventing gaps. For example, the agency utilized special hiring authorities. However, it did not implement other efforts, including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, or plans to strengthen program management.
Monitor the agency's progress in addressing competency and staffing gaps	Partially implemented	SBA established an IT Workforce Steering Committee which monitors progress made in implementing, among other things, strategies and plans to address competency and staffing gaps. However, the agency has not monitored whether the strategies and plans have led to a closure in gaps. In addition, as previously stated, SBA has not yet implemented most of its strategies and plans.
Report to agency leadership on progress in addressing competency and staffing gaps	Partially implemented	SBA's Chief Information Officer has briefed the Administrator on progress towards implementing strategies and plans that are intended to help address competency and staffing gaps. However, the agency did not report on progress in closing gaps because, as previously stated, it has not yet monitored whether the strategies and plans have led to a closure of gaps.

Source: GAO analysis of SBA data. | GAO-20-129

Social Security Administration

Table 26: The Social Security Administration's (SSA) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Minimally implemented	In 2019, SSA issued its Human Capital Operating Plan IT Addendum for Fiscal Years 2018 to 2019, which addressed some, but not all, of the IT workforce planning activities. Specifically, the plan addressed developing competency and staffing requirements, assessing needs regularly, assessing gaps in competencies and staffing, developing strategies and plans to address competency and staffing gaps, and monitoring progress in addressing competency and staffing gaps. However, the plan did not address reporting to agency leadership on progress in addressing gaps. In addition, the plan defined roles and responsibilities, including for the Chief Information Officer, was aligned with mission goals and objectives, and addressed both agency-level and component-level workforce, including maintaining visibility and oversight into component-level workforce efforts. However, the plan did not address how the agency will perform the activities on an ongoing basis. Specifically, the plan only addressed performing the workforce activities during the 2018 to 2019 time frame. According to SSA officials, the agency intends to build upon this plan with a longer-term plan. In addition, as it is a new process, SSA has not yet updated it.

**Appendix II: Agencies' Implementation of Key
IT Workforce Planning Activities**

Key activities	Rating	Description
Develop competency and staffing requirements	Fully implemented	SSA developed competency requirements for its IT staff. In addition, SSA developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, the agency developed staffing targets for its mission critical occupations, which include IT management, in response to the Office of Personnel Management's requirement to submit this information annually.
Assess competency and staffing needs regularly	Fully implemented	SSA biennially assesses competency requirements for its IT management staff. For example, in fiscal year 2018, SSA performed a competency review which resulted in the addition of new cybersecurity competencies. In addition, SSA conducted annual assessments of staffing needs for its IT staff. Specifically, the agency assessed staffing targets for its mission critical occupations, which include IT management.
Assess gaps in competencies and staffing	Fully implemented	SSA assessed gaps in competencies for its IT management staff biennially starting in fiscal year 2014. In addition, SSA conducted annual staffing gap assessments for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management.
Develop strategies and plans to address gaps in competencies and staffing	Minimally implemented	SSA identified three primary strategies for addressing gaps in competencies: training, hiring, and contractors. However, SSA did not develop implementation plans for the associated strategies. In addition, SSA did not develop strategies and plans to address staffing gaps.
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Partially implemented	While, as previously stated, SSA did not develop implementation plans to address competency gaps, officials provided a gap closure report, which showed that the agency had closed competency gaps by providing training, hiring, and using contractors. With respect to staffing, SSA did not implement strategies and plans to address gaps because, as previously stated, it did not develop strategies and plans to address identified staffing gaps. SSA implemented efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with addressing competency and staffing needs. For example, the agency used special hiring authorities to hire eight IT specialists in fiscal year 2018. However, SSA did not implement IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, or plans to strengthen program management.
Monitor the agency's progress in addressing competency and staffing gaps	Minimally implemented	While SSA did not track the implementation of its strategies because, as previously stated, it did not develop implementation plans to address competency gaps, the agency tracked the closure of competency gaps, including which strategies led to the closure (i.e., hiring, training, or contractors) in a gap closure report. In addition, in the agency's fiscal year 2016 to 2019 Information Resource Management Strategic Plan, SSA reported on the status of closing competency gaps identified in its 2014 assessment. SSA did not monitor progress in addressing staffing gaps because, as previously stated, it did not develop strategies and plans to address staffing gaps.

**Appendix II: Agencies' Implementation of Key
IT Workforce Planning Activities**

Key activities	Rating	Description
Report to agency leadership on progress in addressing competency and staffing gaps	Minimally implemented	SSA provides the competency gap assessment and a gap closure report to executive leadership, including the Deputy Commissioner of Systems and Associate Commissioners. However, as previously stated, SSA had not developed implementation plans for the strategies, and thus did not report on progress in implementing the strategies. SSA did not report to agency leadership on progress in addressing staffing gaps because, as previously stated, it did not develop strategies and plans to address staffing gaps.

Source: GAO analysis of SSA data. | GAO-20-129

U.S. Agency for International Development

Table 27: The United States Agency for International Development's (USAID) Implementation of Key Information Technology (IT) Workforce Planning Activities

Key activities	Rating	Description
Establish and maintain a workforce planning process	Not implemented	USAID did not establish an IT workforce planning process. Specifically, while according to USAID officials, the agency's process for managing staffing needs is documented in guidelines for its Hiring and Reassignment Review Board, the guidelines do not document how the agency plans to implement the key IT workforce planning activities, including developing IT competency and staffing requirements, assessing for gaps, developing strategies and plans to address gaps, or monitoring and reporting on progress in addressing gaps. Officials from the Office of the Chief Information Officer stated that they plan to work with their human capital office to develop a formal IT workforce planning process; however, they did not provide a timeline for completion.
Develop competency and staffing requirements	Fully implemented	USAID developed competencies for the IT management staff which represent its IT staff. In addition, USAID developed staffing targets (requirements) for its IT staff, including projections over several years. Specifically, the agency developed staffing targets for its mission critical occupations, which include IT management, in response to the Office of Personnel Management's (OPM) requirement to submit this information annually.
Assess competency and staffing needs regularly	Partially implemented	USAID did not update its competency needs since it initially developed the competencies in 2009. USAID conducted annual assessments of staffing needs for its IT staff. Specifically, the agency assessed staffing targets for its mission critical occupations, which include IT management.

**Appendix II: Agencies' Implementation of Key
IT Workforce Planning Activities**

Key activities	Rating	Description
Assess gaps in competencies and staffing	Partially implemented	<p>USAID did not assess competency gaps for its IT staff. According to officials, competency assessments were offered as an optional tool for employees and supervisors to develop training for the employee, but the agency did not perform a review of competency gaps. However, USAID officials stated that as of December 2018, employees and supervisors are required to perform the competency assessment and they expect to complete an assessment of gaps in competencies in 2019.</p> <p>USAID conducted annual staffing gap assessments for its IT staff. Specifically, it assessed staffing gaps of mission critical occupations, which include IT management.</p>
Develop strategies and plans to address gaps in competencies and staffing	Minimally implemented	<p>USAID did not develop strategies and plans to address gaps in competencies. USAID developed plans to address current gaps in staffing, but not projected gaps. For example, USAID's Office of the Chief Information Officer submitted requests in April 2018 for approval to use direct hiring authorities to address staffing gaps for one of its IT investments. In addition, in 2017 and 2018 the office submitted additional staffing requests to the agency's Hiring and Reassignment Review Board to address critical needs. However, the agency has not developed strategies and plans to address projected staffing gaps, including the gaps identified in response to OPM's annual reporting requirement.</p>
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)	Partially implemented	<p>USAID did not implement strategies and plans to address competency gaps because, as previously stated, it did not develop strategies and plans to address gaps in competencies. With respect to staffing, as previously stated, USAID submitted requests for approval to hire staff to address staffing needs.</p> <p>In addition, USAID implemented efforts identified in the Federal Information Technology Acquisition Reform Act that can assist with preventing and addressing gaps. Specifically, the agency implemented plans to strengthen program management, and use of special hiring authorities. However, USAID did not implement IT acquisition cadres, cross-functional training of acquisition and program personnel, or career paths for program managers.</p>
Monitor the agency's progress in addressing competency and staffing gaps	Minimally implemented	<p>USAID did not monitor progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address competency gaps.</p> <p>While the agency's Hiring and Reassignment Review Board monitors the approval of hires to addressing staffing gaps, USAID did not monitor progress in addressing projected staffing gaps because, as previously stated, it did not develop strategies and plans to address projected staffing gaps.</p>
Report to agency leadership on progress in addressing competency and staffing gaps	Minimally implemented	<p>USAID did not report to agency leadership on progress in addressing competency and staffing gaps because, as previously stated, it did not develop strategies and plans to address competency gaps.</p> <p>While USAID reports to leadership on progress in addressing staffing gaps through its Hiring and Reassignment Review Board, USAID did not report to agency leadership on progress in addressing projected staffing gaps because, as previously stated, it did not develop strategies and plans to address projected staffing gaps.</p>

Source: GAO analysis of USAID data. | GAO-20-129

Appendix III: Comments from the Department of Energy



Department of Energy
Washington, DC 20585

9/23/2019

Ms. Carol C. Harris
Director, Information Technology
Acquisition Management Issues
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Ms. Harris:

The Department of Energy (DOE or Department) appreciates the opportunity to provide a response to the Government Accountability Office's (GAO) draft report titled, *Information Technology: Agencies Need to Fully Implement Key Workforce Planning Activities (GAO-19-188)*. DOE plans to fully implement each of the eight key IT workforce planning activities as described in the enclosure. DOE has taken steps to develop the Department's information technology workforce, including:

- Using the approved authorities for direct hiring, competitive compensation, and enhanced benefits to secure and retain talented professionals to accomplish the mission.
- Working to accelerate learning and skills development to address the shortage of skilled cybersecurity and IT workers in both the public and private sectors, consistent with the National Initiative for Cybersecurity Education (NICE).
- In April 2018, DOE implemented a STEM Rising initiative that inspires, educates, and sparks upward trajectory to lifelong success in STEM through sharing the Department's programs, resources, competitions, events, and internship opportunities. DOE sponsored a Cyber Defense Competition in which nearly 200 students participated and worked in teams during an exercise to protect natural gas networks against cyberattacks from a team of Industry and National Laboratory subject matter experts.
- DOE is participating in the Federal Cybersecurity Career Pathway Planning Group, an interagency group tasked with developing a standard template for cyber-related career paths. This will allow DOE to leverage the work that other agencies have done in cybersecurity and IT career paths.



GAO should direct any questions to Ms. Shari Davenport, Deputy Chief Information Officer for Resources Management, Office of the Chief Information Officer, at 202-586-6865 or via e-mail to shari.davenport@hq.doe.gov.

Sincerely,



Rocky Campione
Chief Information Officer

Enclosure

MANAGEMENT RESPONSE
GAO Draft Report, GAO-19-188
INFORMATION TECHNOLOGY:

Agencies Need to Fully Implement Key Workforce Planning Activities

Recommendation: The Secretary of Energy should ensure that the agency fully implements each of the eight key IT workforce planning activities it did not fully implement.

Management Response: *Concur.*

- **Establish and maintain a workforce planning process:** DOE's Integrated Workforce Planning Facilitation Guide provides a framework for DOE to develop an IT workforce planning process. DOE will develop and implement an IT workforce planning process consistent with the Facilitation Guide by December 2020.

Estimated Completion Date: December 2020.

- **Develop competency and staffing requirements:** DOE has addressed this issue and provided this information to Office of Personnel Management (OPM) and the Office of Management and Budget (OMB) in May of 2019. The information provided was developed jointly by the Office of the Chief Information Officer (OCIO) and the Office of the Human Capital Officer (HC).
 - DOE developed a list of *Agency Work Roles of Critical Need*, which addresses competency and staffing requirements across the Department. This list summarizes the root cause analysis to determine proficiencies, competencies, work shortages, and staffing requirements. These work roles are aligned to the NICE framework. DOE's Human Capital Office submitted this list to OPM.
 - HC provided four reports to OPM/OMB regarding four specific work roles of critical need (two cyber work roles and two IT work roles). These analyses and reports are aligned to the DOE's *List of Work Roles of Critical Need* and document progress measures, metrics, milestones, baselines and targets to close the competency and staffing gaps.

Completion Date: May 2019.

- **Assess competency and staffing needs regularly:** DOE will assess functional competencies incorporated into the Learning Management System quarterly. DOE will align staffing and competency gaps to training offerings to meet the staffing and competency needs.

Estimated Completion Date: June 2020.

- **Assess gaps in competencies and staffing.** DOE will conduct a review and root cause analysis of staffing plans that include IT and cyber positions to identify Departmental IT and cyber staffing gaps and priorities. This will be coordinated by the OCIO as the functional head with support provided by HC on strategies available to address identified gaps and priorities.

Estimated Completion Date: June 2020.

- **Develop strategies and plans to address gaps in competencies and staffing:** DOE will develop a recruitment and staffing strategy to strengthen its hiring practices and close identified competency gaps. DOE will leverage its root cause analysis that was planned as part of the process and conducted to address gaps in competencies and staffing. DOE will also align Position Descriptions to the NICE descriptors of knowledge, skills and abilities (KSAs) required for each position.

Estimated Completion Date: September 2020.

- **Implement activities that address gaps:** DOE will implement workforce initiatives to address gaps consistent with its strategy. Specific activities may include initiatives relating to IT acquisition, cross-functional training of acquisition and program personnel, defining career paths for program managers, and the strategic use of special hiring authorities.

Estimated Completion Date: The estimated completion dates for IT acquisition efforts are December 2020 while the completion date for other activities is September 2021.

- **Monitor the agency's progress in addressing competency and staffing gaps:** DOE efforts to address staffing gaps have been successful in creating an awareness and commitment to close the competency and staffing gaps. As part of this strategy, DOE will develop a program for a regular review of job positions by supervisors. Supervisors will code any new or modified positions to NICE competencies. This will allow for a more efficient reclassification process when necessary.

Estimated Completion Date: June 2020.

- **Report to agency leadership on progress in addressing competency and staffing gaps:** OCIO will report to agency leadership (Cyber Council and Information Management Governance Board) on a monthly basis to make certain senior leadership is aware of competency and staffing gaps and will present strategies for resolution.

Estimated Completion Date: June 2020.

Appendix IV: Comments from the Department of Housing and Urban Development



U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, DC 20410-3000

CHIEF INFORMATION OFFICER

OCT 02 2019

Ms. Carol C. Harris
Director, Information Technology Acquisition Management Issues
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20415

Dear Ms. Harris:

The Department of Housing and Urban Development (HUD) appreciates the opportunity to review and comment on the draft report, entitled, "*Information Technology: Agencies Need to Fully Implement Key Workforce Planning Activities*" (GAO-19-188).

GAO made 18 recommendations to federal agencies - one recommendation to each of the 18 agencies. HUD is in general agreement with the overall content of the draft report. Attached are actions HUD has taken to implement the key activities identified in the report. The attached comments are provided for incorporation with this letter as an appendix to the final report.

Once again, thank you for the opportunity to review and comment on the draft report. If you have any questions concerning this response, please contact Nancy E. Corsiglia, Deputy Chief Information Officer, Business and IT Resource Management Office, at (202) 402-4025 (Nancy.E.Corsiglia@hud.gov), or Ebony A. Johnson, Audit Liaison, Audit Compliance Branch, at (202) 402-2164 (Ebony.A.Johnson@hud.gov).

Sincerely,

David Chow
Chief Information Officer

Attachment

www.hud.gov

espanol.hud.gov

**HUD Response to GAO Report, Information Technology:
Agencies Need to Fully Implement Key Workforce Planning Activities
(GAO-19-188)**

Recommendation 5

The Secretary of Housing and Urban Development should ensure that the agency fully implements each of the seven Key IT workforce planning activities it did not fully implement.

Response:

Concur. Strategic workforce planning is an essential component to ensuring HUD has the right people, in the right positions, with the right skills and competencies, at the right time. HUD uses a variety of tools to anticipate and respond to changing staffing needs. HUD will fully implement each of the seven Key IT workforce planning activities.

Appendix V: Comments from the Department of Homeland Security

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



**Homeland
Security**

September 13, 2019

Carol C. Harris
Director, Information Technology Acquisition Management Issues
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Re: Management's Response to Draft Report GAO-19-188, "INFORMATION TECHNOLOGY: Agencies Need to Fully Implement Key Workforce Planning Activities"

Dear Ms. Harris:


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

The Department agrees that effective workforce planning is key to addressing the federal government's information technology (IT) challenges and ensuring agencies have staff with the necessary knowledge, skills, and abilities to execute a range of management functions that support agencies' missions and goals. DHS remains committed to fully implementing all the key IT workforce planning activities addressed in this report.

The draft report contained 18 recommendations, including one for DHS with which the Department concurs. Attached find our detailed response to this recommendation. Technical comments have been previously provided under separate cover.

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

Sincerely,


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

Attachment

**Attachment: Management Response to the Recommendation
Contained in GAO-19-188**

GAO recommended that the Secretary of Homeland Security:

Recommendation 4: Ensure that the agency fully implements each of the eight key IT workforce planning activities it did not fully implement.

Response: Concur. The DHS Office of the Chief Information Officer (OCIO) has completed a competency analysis, competency requirements, and developed a skill gap assessment for all four groups of IT roles, including the IT Acquisition Cadre. With input from the Department's Office of the Chief Human Capital Officer (OCHCO) and the Office of the Chief Procurement Officer, and other components, OCIO established an IT workforce planning strategy that includes assessing IT skill sets, implementing role-based competency models, defining training plans that include IT certifications, and planning employee career paths.

The OCIO's Office of the Chief of Staff Workforce Engagement Division will work with the Department's Chief Information Officer Council and OCHCO to form an Integrated Project Team by January 30, 2020 which will be charged with discussing the aforementioned strategy and outlining an action plan to ensure the strategy addresses all of the key IT workforce planning activities outlined in this GAO report. Estimated Completion Date: To Be Determined.

Appendix VI: Comments from the Department of the Interior



United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, DC 20240

SEP 12 2019

Ms. Carol C. Harris
Director, Information Technology Acquisition Management Issues
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Ms. Harris:

Thank you for providing the Department of the Interior (Department) the opportunity to review and comment on the draft Government Accountability Office (GAO) report entitled, *Information Technology: Agencies Need to Fully Implement Key Workforce Planning Activities* (GAO-19-188). We appreciate GAO's review of the workforce planning activities.

GAO issued several recommendations, including one to the Department to address its findings. Below is the Department's response:

Recommendation 6: The Secretary of the Interior should ensure that the agency fully implements each of the eight key IT workforce planning activities it did not fully implement.

Response: Concur. The Department has taken steps to implement the eight key Information Technology workforce planning activities and will fully implement the remaining activities. The enclosed document provides additional details supporting the steps taken to date.

If you have any questions or need additional information, please contact William E. Vajda, Chief Information Officer at william_vajda@ios.doi.gov or Raymond Limon, Chief Human Capital Officer at raymond_limon@ios.doi.gov.

Sincerely,

Susan Combs
Assistant Secretary
Policy, Management and Budget

Enclosure

Enclosure

**Department of the Interior
IT Workforce Planning Status/Update**

IT Workforce Planning Activities	Status/Updates
Establish and maintain a workforce planning process	The Department made progress in this area by requiring each bureau to complete a Federal Information Technology Acquisition Reform Act (FITARA) Implementation Plan. As of August 2019, five out of the nine bureaus developed workforce plans that they are executing. These plans will feed directly into the Department's Information Technology workforce plan.
Develop competency and staffing requirements	The Department made significant progress in developing an IT competency model. As of July 2019, the Department completed a literature review, Subject Matter Expert (SME) focus groups, and survey for the IT competency model.
Assess competency and staffing needs regularly	The Department is conducting an assessment of IT competencies as part of the overall IT competency development process.
Assess gaps in competencies and staffing	The Department is assessing and identifying gaps in IT competencies as part of the overall IT competency development process.
Develop strategies and plans to address gaps in competencies and staffing	The Department participated in an IT hiring pilot through a partnership with United States Digital Service (USDS) and the Office of Personnel Management (OPM).
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use special hiring authorities)	On June 10, 2019, the Department authorized the use of Direct Hire Authority for all IT positions in the GS-2210 occupational series, at all grade levels and geographical locations. The Department is also launching a career pathing tool in early FY 2020 that will be helpful to address gaps.
Monitor the agency's progress in addressing competency and staffing gaps	The outcome of the IT hiring pilot will provide the Department methods to better address IT competency and staffing gaps.
Report to agency leadership on progress in addressing competency and staffing gaps	Senior leadership within the Office of the Chief Information Officer and the Office of Human Capital are highly engaged in the IT hiring pilot and are informed of the progress made to address IT competency and staffing gaps.

Appendix VII: Comments from the Department of Labor

U.S. Department of Labor

Office of the Assistant Secretary
for Administration and Management
Washington, D.C. 20210



SEP 06 2019

Ms. Carol C. Harris
Director, Information Technology
Acquisition Management Issues
Government Accountability Office
441 G Street, NW
Washington, D.C. 20548

Dear Ms. Harris:

Thank you for the opportunity to review and comment on draft report GAO-19-188 *Information Technology: Agencies Need to Fully Implement Key Workforce Planning Activities*. We appreciate the Government Accountability Office's (GAO) efforts and insights.

Recommendation 8: *The Secretary of Labor should ensure that the agency fully implements each of the eight key Information Technology (IT) workforce activities it did not fully implement.*

DOL Response: DOL concurs with the draft GAO recommendation and has made significant progress toward fully implementing each of the eight key IT workforce activities. The Office of the Chief Information Officer (OCIO) has completed a number of workforce planning initiatives and activities that have improved DOL's internal IT capability and IT business results.

In FY 2018, DOL began implementing shared services models for major administrative functions, including human resources (HR), IT, and procurement under the Office of the Assistant Secretary for Administration and Management (OASAM). In preparation for IT shared services, and to improve organizational alignment, the regional OASAM IT workforce was aligned to the OCIO in October 2018. The realignment incorporated a 100 percent position description (PD) review and updating. The review also incorporated the establishment of some standard PDs to cover similar position requirements across the country. The OCIO also completed its restructuring of its headquarters workforce which also required a 100 percent PD review. These PD reviews identified key IT competency areas and aligned with the updated GS-2210 IT Management Series Office of Personnel Management Position Classification Standard. The majority of IT workers from other DOL Agencies will be transitioned to the OCIO shared services organization in FY 2020 and FY 2021.

Much of the competency and skills needs assessments began from a completed IT workforce supply analysis conducted in mid-May 2018, which revealed an insufficient IT workforce capacity to support enterprise-wide IT initiatives such as cloud migration, continuous upgrades to network circuits and provisioning, and the standing up and maintenance of new integration tools. The analysis also highlighted critical IT skills gaps in emerging technologies, cloud-based services, cybersecurity, and enterprise architecture. The analysis influenced the FY 2019 - 2020 OCIO Recruitment Plan, which was based on skills and workforce shortages. In June 2019, the OCIO developed and implemented hiring approval and prioritization templates, which requires a current workforce/competency assessment and identifies critical core IT activities and competencies with each hiring request. Hiring managers also participate in a job analysis prior to

Appendix VII: Comments from the Department of Labor

the position's being posted on USAJOBS.gov. The job analysis identifies key IT competencies specific to the position being advertised and is used to develop the job advertisement and the crediting plan used to rank applicants. In June 2019, the Secretary of Labor approved the use of direct hire authority for IT Specialists in the Washington, D.C. Metropolitan area based on workforce planning and analysis. In addition, and aligned to the Administration's Cross-Agency Priority Goal 1 (IT Modernization), an action plan was finalized in March 2019 by the OCIO and the Chief Human Capital Officer (CHCO) identifying strategies to be used to address IT workforce gaps. Progress has been monitored in weekly discussions with and oversight from the CIO and the CHCO.

In summary, DOL has implemented many IT workforce planning activities over the past 18 months. DOL will provide evidence of the progress it has made since the completion of GAO's engagement and the issuance of the draft report as described below.

GAO Key IT workforce Planning Activities	Implementation Status
1. Establish and maintain a workforce planning process	Ongoing – DOL has developed and is actively using its IT workforce planning process. DOL finalized an IT Workforce Plan in May 2018 and continues to make progress in addressing workforce gaps. DOL will provide an update by Q2 FY 2020.
2. Develop competency and staffing requirements	Completed
3. Assess competency and staffing needs regularly	Completed
4. Assess gaps in competencies and staffing	Completed
5. Develop strategies and plans to address gaps in competencies and staffing	Completed
6. Implement activities that address gaps (e.g. use of special hiring authorities)	Completed
7. Monitor the agency progress in addressing the competency and staffing gaps	Completed
8. Report to agency leadership on progress in address competency and staffing gaps	Completed

DOL understands the importance of ongoing IT workforce planning activities and will continue to evaluate and act to ensure it is effectively staffed with a highly competent IT workforce. Should you have any questions regarding the Department's response, please have your staff contact Gundeep Ahluwalia, Chief Information Officer, at (202) 693-4200.

Sincerely,



Bryan Slater
 Assistant Secretary for
 Administration and Management

Appendix VIII: Comments from the Department of State



United States Department of State
Comptroller
Washington, DC 20520

SEP 26 2019

Thomas Melito
Managing Director
International Affairs and Trade
Government Accountability Office
441 G Street, N.W.
Washington, D.C. 20548-0001

Dear Mr. Melito:

We appreciate the opportunity to review your draft report, "INFORMATION TECHNOLOGY: Agencies Need to Fully Implement Key Workforce Planning Activities" GAO Job Code 102588.

The enclosed Department of State comments are provided for incorporation with this letter as an appendix to the final report.

Sincerely,

A handwritten signature in blue ink that reads "Jeffrey C. Mounts".

Jeffrey C. Mounts (Acting)

Enclosure:
As stated

cc: GAO – Carol C. Harris
IRM – Stuart McGuigan
OIG - Norman Brown

UNCLASSIFIED

Department of State Response to GAO Draft Report

INFORMATION TECHNOLOGY: Agencies Need to Fully Implement Key Workforce Planning Activities
(GAO-19-188, GAO Code 102588)

Thank you for the opportunity to comment on the GAO draft report “*Information Technology: Agencies Need to Fully Implement Key Workforce Planning Activities.*”

Recommendation: The Secretary of State should ensure that the agency fully implements each of the seven key IT workforce planning activities it did not fully implement. (Recommendation 9)

Response: Department of State agrees with the recommendation.

- Establish and maintain a workforce planning process – Minimally Implemented
 - In addition to the Department’s Five Year Workforce and Leadership Succession Plan which documents the workforce planning process, the Department has developed an IT Strategic Workforce Plan specifically for the Civil Service and Foreign Service IT workforce. The IT Strategic Workforce Plan is currently in the clearance process and is expected to be finalized by the end of the fiscal year.
- Assess competency and staffing needs regularly – Partially Implemented
 - The Department continuously assesses competency needs to identify emerging gaps. For example, formal studies are conducted every five years. Additionally, in 2019, the Department took a closer look at its IT Acquisitions competencies.
 - The Department assesses staffing targets for its mission critical occupations annually, which include IT management. The Department is also using the recently approved Direct Hiring Authority (DHA) to minimize staffing shortages in the Civil Service IT workforce. Foreign Service staffing targets are reviewed throughout the year and projected intake is adjusted based on the number of applicants on the register and projected attrition. In March 2019, the Department changed the application process for Foreign Service Information Management Specialists (IMS) in an effort to speed up the intake process and reduce staffing gaps.
- Assess gaps in competencies and staffing – Substantially Implemented
 - The Department plans to assess competency gaps again in 2021.
 - The Department has been focused on reducing the number of IT vacancies and has established two different IT Workforce Working Groups: one in HR which is primarily focused on Foreign Service staffing, and one in IRM which is expected to address Foreign Service and Civil Service staffing. Both working groups will have representatives from other bureaus to ensure overall Department needs are met.
- Develop strategies and plans to address gaps in competencies and staffing – Substantially Implemented

- The Department is in the initial phases of working with a curriculum developer to address competency gaps identified by the competency studies.
- The Department has been working to close staffing gaps in the IT workforce.
 - The Foreign Service vacancy announcement process has been updated to allow for year-round applications rather than the twice a year process used in the past, and has also moved the online test from the end of the process to the beginning. These changes are expected to assist the Department in seeking qualified applicants faster.
 - In an effort to recruit and employ our nations's veterans, the Department recently posted a GS-09 to GS-14 IT Specialist announcement for Eligible Veterans Only. The resumes are now available for review and consideration by hiring managers.
 - In addition, the Department recently posted a GS-09 to GS-15 IT Specialist (2210) announcement using the Direct Hiring Authority to address gaps in staffing which received 1200 applications. These applications are now being reviewed by SMEs and qualified applications will then be made available to hiring managers.
- Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities) – Partially Implemented
 - The Department is currently conducting an IT Acquisitions study to better define the competencies needed of the IT Acquisitions workforce and determine ways to mitigate any gaps identified through formal training, and/or on-the-job training. In addition, the Bureau of Information Resource Management (IRM) has been working to establish a new IT Acquisitions office. This office was announced within IRM on August 16, 2019.
- Monitor the agency's progress in addressing competency and staffing gaps – Minimally Implemented
 - The Department has not conducted another competency study to monitor competency gaps; however, the Department does review staffing gaps throughout the year.
- Report to agency leadership on progress in addressing competency and staffing gaps – Substantially Implemented
 - Department leadership is briefed regularly on initiatives, funding, and efforts being made to address IT competency gaps. IT workforce was identified as one of the top four critical focus areas of the CIO's new IT Executive Council, which is a cross-agency working group established to ensure ongoing communication to agency leadership. State has briefed the Director General of the Foreign Service and Director of Human Resources, and the Chief Information Officer on the Competency Studies including updates on actions taken on the recommendations to date. HR and IRM are in the process of providing an Information Memo to the Under Secretary for Management with this same information.

Appendix IX: Comments from the Department of Veterans Affairs



DEPARTMENT OF VETERANS AFFAIRS
Washington DC 20420

SEP 12 2019

Ms. Carol C. Harris
Director
Information Technology Acquisition
Management Issues
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Ms. Harris:

The Department of Veterans Affairs (VA) has reviewed the Government Accountability Office (GAO) draft report: **INFORMATION TECHNOLOGY: Agencies Need to Fully Implement Key Workforce Planning Activities** (GAO-19-188).

The enclosure contains the actions to be taken to address the draft report recommendation. VA appreciates the opportunity to comment on your draft report.

Sincerely,

A handwritten signature in blue ink, appearing to read "Pamela Powers".

Pamela Powers
Chief of Staff

Enclosure

Enclosure

Department of Veterans Affairs (VA) Comments on
Government Accountability Office (GAO) Draft Report
***INFORMATION TECHNOLOGY: Agencies Need to Fully Implement
Key Workforce Planning Activities***
(GAO-19-188)

GAO Recommendation: The Secretary of Veterans Affairs should ensure that the agency fully implements each of the five key IT workforce planning activities it did not fully implement.

VA Comment: Concur. The Department of Veterans Affairs (VA) is committed to effective information technology (IT) workforce planning to ensure the Department has skilled and knowledgeable staff to execute the range of IT functions critical to VA's mission.

VA conducts ongoing process improvement of IT workforce planning and will continue to mature its IT staffing model and strategic workforce planning efforts. Notwithstanding continuous improvement, VA believes that the Department has fully implemented all key IT workforce planning steps and activities as outlined in the GAO evaluation framework.

Please see below for VA's detailed comments on each of the five key IT workforce planning activities for which GAO rated VA as less than fully implemented.

- ***Workforce Planning Activity 1: Establish and maintain a workforce planning process (GAO assessment of VA – Minimally implemented)***

VA recommends updating the rating for the subject key IT workforce activity from **Minimally implemented** to **Fully implemented** for the Department.

VA's Office of Information and Technology (OIT) has fully implemented a workforce planning process, including developing and implementing strategies to address gaps in competencies and staffing. VA is submitting the enclosed Human Capital Strategic Plan (Attachment A), which addresses key IT workforce planning activities, including the various work analyses and skills gap analyses. The deployment of this document marked the formal strategic initiation of these steps, and the overall workforce planning activities have been matriculated throughout the organization. The Human Capital Strategic Plan is undergoing a refresh; however, the enclosed version remains current through Fiscal Year (FY) 2020.

The OIT Human Capital Management Recruitment Strategy (Attachment B) outlines talent acquisition approaches leveraged within OIT to address staffing gaps. Implementation of the strategies put forth in the document were key drivers in closing the OIT staffing gap to a full time employee (FTE) vacancy rate of 1.4 percent.

Enclosure

Department of Veterans Affairs (VA) Comments on
Government Accountability Office (GAO) Draft Report
**INFORMATION TECHNOLOGY: Agencies Need to Fully Implement
Key Workforce Planning Activities**
(GAO-19-188)

OIT's organizational change management policy is moving forward to refine processes and related process maps associated with position management, workforce planning, and organizational change management.

Additionally, OIT recently concluded data collection that will ultimately result in a staffing model that accurately depicts the current array of the OIT workforce, requirements to perform the mission, functions, tasks assigned, and the associated staffing gap. The preliminary results were briefed to the Assistant Secretary for Information and Technology and Chief Information Officer (CIO) and other key senior leadership in June 2019, and subsequently presented to the Office of Management and Budget in July 2019 (Attachment C).

- **Workforce Planning Activity 5: Develop strategies and plans to address gaps in competencies and staffing (GAO assessment of VA – Substantially implemented).**

VA recommends updating the rating for the subject key IT workforce activity from **Substantially implemented** to **Fully implemented** for the Department.

Staffing Gaps: OIT has a Human Capital Management Recruitment Strategy and has recently concluded data collection for the first iteration of a new staffing model.

For projected staffing gaps, OIT has developed initial plans for deploying internal employee growth mechanisms. However, because OIT anticipates no authorized FTE growth for FYs 2020 and 2021, the primary focus of OIT's workforce strategies will be on delivering IT services in a growing environment while experiencing negative FTE growth authorization. Given OIT's low vacancy rate, the emphasis will pivot from filling gaps to sustaining services while controlling workforce attrition.

Competency Gaps: As noted by GAO, OIT has developed recommended actions to address competency gaps. For example, OIT uses competency gap data to develop hundreds of high-impact IT training events for every competency and proficiency to strategically address organizational gaps. Annual competency assessments provide trend data to show the impact learning events and on-the-job training have made toward closing gaps and increasing skill mastery by staff.

Enclosure

Department of Veterans Affairs (VA) Comments on
Government Accountability Office (GAO) Draft Report
**INFORMATION TECHNOLOGY: Agencies Need to Fully Implement
Key Workforce Planning Activities**
(GAO-19-188)

- **Workforce Planning Activity 6: Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities) (GAO assessment of VA – Substantially implemented).**

VA recommends updating the rating for the subject key IT workforce activity from **Substantially implemented** to **Fully implemented** for the Department.

Staffing Gaps: The OIT Human Capital Management Recruitment Strategy outlines talent acquisition approaches leveraged within OIT to address staffing gaps.

Competency Gaps: As noted by GAO, VA has implemented activities that address competency gaps. Examples include customized training and resources for staff involved in IT acquisition, a financial management competency model, an IT program management competency model, and specialized training in IT Infrastructure Library and Agile methodologies.

- **Workforce Planning Activity 7: Monitor the agency's progress in addressing competency and staffing gaps (GAO assessment of VA – Partially implemented).**

VA recommends updating the rating for the subject key IT workforce activity from **Partially implemented** to **Fully implemented** for the Department based on the information provided in VA's responses to Workforce Planning Activities 1, 5, and 6.

- **Workforce Planning Activity 8: Report to agency leadership on progress in addressing competency and staffing gaps (GAO assessment of VA – Partially implemented).**

Based on the information provided below, VA recommends updating the rating for the subject key IT workforce activity from **Partially implemented** to **Fully implemented** for the Department.

In June 2019, OIT briefed VA's CIO and senior leadership on the preliminary results of data collection that will ultimately result in a staffing model that accurately depicts the current array of the OIT workforce, requirements to perform the mission, functions, tasks assigned, and the associated staffing gap.

Appendix X: Comments from the General Services Administration



The Administrator

September 12, 2019

The Honorable Gene L. Dodaro
Comptroller General of the United States
U.S. Government Accountability Office
Washington, DC 20548

Dear Mr. Dodaro:

The U.S. General Services Administration (GSA) appreciates the opportunity to review and comment on the U.S. Government Accountability Office (GAO) draft report entitled *INFORMATION TECHNOLOGY: Agencies Need to Fully Implement Key Workforce Planning Activities* (GAO-19-188).

GSA reviewed the report, agrees with its recommendation to ensure full implementation of key information technology workforce planning activities, and has established a project team to implement the remaining activities.

If you have any questions, please contact me at (202) 969-7277 or Jeffrey A. Post, Associate Administrator, Office of Congressional and Intergovernmental Affairs, at (202) 501-0563.

Sincerely,

A handwritten signature in blue ink that reads "Emily W. Murphy".

Emily W. Murphy
Administrator

cc: Carol C. Harris, Director, IT Acquisition Management Issues, GAO

1800 F Street, NW
Washington, DC 20405-0002
www.gsa.gov

Appendix XI: Comments from the Office of Personnel Management



Office of the
Chief Information
Officer

UNITED STATES OFFICE OF PERSONNEL MANAGEMENT

Washington, DC 20415

SEP 12 2019

Sabine Paul
Assistant Director
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Mr. Paul:

Thank you for providing us the opportunity to respond to the Government Accountability Office (GAO) draft report entitled, *Information Technology (IT) Workforce Planning*, GAO 19-188, 102588.

Our response to your recommendation is provided below.

Recommendation #15:

The Director of the Office of Personnel Management (OPM) should ensure that the agency fully implements each of the eight key IT workforce planning activities it did not fully implement.

Management Response:

We concur. OPM concurs with the findings in the Draft Report which highlight and describe shortcomings in OPM's IT Workforce Planning Activities.

To address these shortcomings, OPM partnered with the General Services Administration IT Modernization Centers of Excellence, to effectively assess the current state of our IT workforce planning activities. The results of this work will provide OPM data to better identify individual and organizational gaps and needs of the IT workforce, and develop and implement targeted strategies to address the identified gaps and needs.

In addition, the results will be used as a benchmark for continual monitoring and tracking of progress made in implementing the key IT workforce planning activities. OPM will periodically report the progress made to the agency's leadership.

I appreciate the opportunity to respond to this draft report. If you have any questions regarding our response, please contact Karl Alvarez, Resources Manager, (202) 606-9526, Karl.Alvarez@opm.gov.

Sincerely,

A handwritten signature in cursive script that reads "Clare Martorana".

Clare Martorana
Chief Information Officer

Appendix XII: Comments from the Small Business Administration



U.S. Small Business
Administration

September 19, 2019

Ms. Carol C. Harris
Director, Information Technology Acquisition Management Issues
U.S. Government Accountability Office
441 G Street, N.W.
Washington, DC 20548

Dear Ms. Harris:

Thank you for providing the U. S. Small Business Administration (SBA) with a copy of the Government Accountability Office (GAO) draft report titled "Information Technology: Agencies Need to Fully Implement Key Workforce Planning Activities", GAO-19-188 (102588). The draft report analyzes the extent to which agencies have effectively implemented Information Technology (IT) workforce planning practices. Specifically, GAO compared agencies' IT workforce activities to an IT workforce planning framework that GAO issued which has eight key activities. Of the eight key planning activities, SBA fully implemented one, substantially implemented two, and partially implemented five.

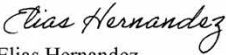
SBA has reviewed the draft report and agrees with the one recommendation received.

Recommendation 16: The Administrator of the Small Business Administration should ensure that the agency fully implements each of the seven key IT workforce planning activities it did not fully implement.

SBA Response: Concur. SBA's Office of Human Resource Solutions and the Office of the Chief Information Officer will continue unified efforts to fully implement the remaining seven key IT workforce planning activities noted in the report, Appendix II, Table 25. Estimated Completion Date: September 30, 2021.

Thank you for the opportunity to comment on this draft report. Technical comments were provided under separate cover. SBA appreciates GAO's consideration of our comments prior to publishing the final report.

Sincerely,


Elias Hernandez
Chief Human Capital Officer

MARIA ROAT
Digitally signed by
MARIA ROAT
Date: 2019.09.19 15:16:50
-04'00'
Maria Roat
Chief Information Officer

Appendix XIII: Comments from the Social Security Administration



SOCIAL SECURITY
Office of the Commissioner

Carol C. Harris
Director, Information Technology
Acquisition Management Issues
United States Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Director Harris:

Thank you for the opportunity to review the draft report, "INFORMATION TECHNOLOGY: Agencies Need to Fully Implement Key Workforce Planning Activities" (GAO-19-188). We agree with GAO's recommendation.

Our fiscal year (FY) 2018-2019 Human Capital Operating Plan (HCOP) outlines our goals relating to workforce management, succession management, and performance management. Recognizing the importance of information technology (IT), we developed an addendum to the HCOP that serves as a roadmap for identifying, hiring, retaining, and managing the right mix of talent to achieve our mission of delivering quality services to the public.

By the end of this fiscal year, we will finish developing an IT Workforce Strategy and an implementation plan to replace our HCOP IT addendum. Together, these documents will provide the framework to address our future IT workforce needs and ensure we have the staff we need to support the areas of talent management, sourcing strategy, communications, digital workplace and culture, and leadership. In FY 2020, we will begin implementation activities to address the findings from the GAO audit.

If you have any questions, please contact me at (410) 965-9704. Your staff may contact Trae Sommer, Director of the Audit Liaison Staff, at (410) 965-9102.

Sincerely,

A handwritten signature in blue ink that reads "Stephanie Hall".

Stephanie Hall
Acting Deputy Chief of Staff

SOCIAL SECURITY ADMINISTRATION BALTIMORE, MD 21235-0001

Appendix XIV: Comments from the United States Agency for International Development



September 16, 2019

Carol C. Harris
U.S. Government Accountability Office
441 G Street, N.W.
Washington, D.C. 20226

Re: *INFORMATION TECHNOLOGY: Agencies Need To Fully Implement Key Workforce Planning Activities* (GAO-19-188 [Engagement Code 102588])

Dear Ms. Harris:

I am pleased to provide the formal response of the U.S. Agency for International Development (USAID) to the draft report produced by the U.S. Government Accountability Office (GAO) titled, *INFORMATION TECHNOLOGY: Agencies Need To Fully Implement Key Workforce Planning Activities* (GAO-19-188).

USAID remains committed to improving our workforce-planning, and has made progress by using GAO's workforce-planning framework for information technology (IT), which includes eight key activities based on Federal laws, guidance, and best practices. USAID recognizes that implementing these key activities is critical to assessing and addressing gaps in the required knowledge, skills, and abilities related to IT that enhance the Agency's mission and goals. We appreciate that the draft report notes that USAID has fully implemented competencies for its IT-management staff and developed staffing targets and projections over several years.

I am transmitting this letter and the enclosed comments from USAID for inclusion in the GAO's final report. Thank you for the opportunity to respond to the draft report, and for the courtesies extended by your staff while conducting this engagement. We appreciate the opportunity to participate in the complete and thorough evaluation of our workforce-planning activities related to IT.

Sincerely,



Frederick Nutt
Assistant Administrator
Bureau for Management

Enclosure: a/s

COMMENTS BY THE U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT ON THE DRAFT REPORT PRODUCED BY THE U.S. GOVERNMENT ACCOUNTABILITY OFFICE (GAO) TITLED, *INFORMATION TECHNOLOGY: Agencies Need To Fully Implement Key Workforce Planning Activities (GAO-19-188)*.

The U.S. Agency for International Development (USAID) would like to thank the GAO for the opportunity to respond to this draft report. We appreciate the extensive work of the GAO's engagement team and the specific findings that will help USAID achieve greater effectiveness in workforce-planning activities related to information technology (IT).

Recommendation 1: The Administrator of the U.S. Agency for International Development should ensure that the Agency fully implements each of the seven key IT workforce planning activities it did not fully implement.

USAID concurs with this recommendation. The Agency is taking the following actions to implement fully the seven key workforce-planning activities related to our IT workforce to address gaps in competencies and staffing, as described below. USAID will do so by first prioritizing the IT workforce across the Office of the Chief Information Officer (CIO) within the Bureau for Management (M) and other relevant positions in Washington, D.C., and then will turn to the relevant positions and competencies overseas:

- *Establish and maintain a workforce-planning process for IT:* The Office of Human Capital and Talent-Management (HCTM) will complete USAID's Interim Strategic Workforce Plan for Fiscal Years (FY) 2020–2021 by October 2019. The Plan will inform strategic recruitment and retention for IT positions across the Agency, and update our overall workforce-planning process to incorporate best practices and the forthcoming workforce-planning and reporting tools. Additionally, HCTM and M/CIO together will establish the baseline of our IT staff; define the future needs for, and gaps in, our IT staffing; and plan to fill them.
 - Action: HCTM, with support from M/CIO.
 - Timeline for Completion: End of the Second Quarter of FY 2020.

- *Assess regularly the needs for, and gaps in, competencies and staffing for IT:* As part of the workforce-planning process related to IT, HCTM and M/CIO will annually assess the competencies of, and staffing needs for, our IT professionals. M/CIO will ensure the Agency's IT-related workforce (*i.e.*, IT professionals and their supervisors in the occupation series 2210, 1550, and 0854, plus any other IT-connected positions identified by M/CIO) will take competency assessments. HCTM will make available and coordinate with M/CIO on the use of an appropriate Competency-Assessment Tool. HCTM's Center for Professional Development (HCTM/CPD) will then analyze the assessments to determine initial gaps in competencies and develop a facilitator guide for focus groups to dive deeper into them.
 - Action: HCTM, with regular input from M/CIO.
 - Timeline for Completion: End of the Second Quarter of FY 2020.

In addition, starting in the 2020 performance period for USAID's Civil Service employees (which now begins in April), HCTM and M/CIO will use the competency assessments in the development of the Individual Learning and Training Plans (ILTP) of our staff members. USAID envisions continuing to develop and refine the competency assessments, the associated ILTPs, and the estimates of our staffing needs consistent with the GAO's recommendation and the related requirements of the Federal IT Acquisition Reform Act (FITARA).

- Action: HCTM and M/CIO.
 - Timeline for Completion: End of the third quarter of FY 2020.
- *Develop strategies and plans to address gaps in competencies and staffing for IT:* HCTM and M/CIO will develop strategies and plans to address the identified gaps in competencies and staffing. HCTM and M/CIO will rely on a combination of the assessed gaps and a subsequent series of focus-group discussions with our IT professionals, including employees, supervisors, senior leaders, and subject-matter experts, to establish the overall strategy and plans moving forward.
 - Action: HCTM, with participation and input from M/CIO.
 - Timeline for Completion: End of the fourth quarter of FY 2020.

- *Implement activities that address the identified gaps for IT:* HCTM and M/CIO together will implement the plans and activities to address the identified gaps. For example, HCTM with M/CIO will use aggressively the U.S. Government-wide U.S. Direct-Hire Authority for Cyber Security and Information Technology (INFOSEC). USAID will use targeted recruitment events with M/CIO's hiring officials to find, evaluate on the spot, and extend tentative job offers to, qualified candidates to expedite the hiring process.
 - Action: HCTM and M/CIO.
 - Timeline for Completion: End of the first quarter of FY 2021 (and ongoing).
- *Monitor the Agency's progress in addressing the identified competencies and staffing gaps for IT:* As part of the workforce-planning process for IT-related positions, HCTM and M/CIO will develop a monitoring plan to track our progress in addressing competencies and staffing gaps for IT and conduct quarterly meetings to develop corrective actions, if any. The first quarterly meeting would take place by the end of the second quarter of FY 2021.
 - Action: HCTM, with input and participation from M/CIO.
 - Timeline for Completion: End of the second quarter of FY 2020.
- *Report to the Agency's leadership on our progress in addressing competency and staffing gaps for IT:* HCTM and M/CIO will brief the Administrator and the Agency's other senior leaders, starting in the first quarter of FY 2020. Venues for these briefings will include the Agency's weekly Senior Management Meetings and the bi-weekly meetings of USAID's Management Operations Council. The CIO will also provide regular updates for the Administrator as part of their scheduled, quarterly meetings.
 - Action: HCTM and M/CIO.
 - Timeline for Completion: Ongoing.

Appendix XV: Comments from the Department of Education



UNITED STATES DEPARTMENT OF EDUCATION
OFFICE OF FINANCE AND OPERATIONS

September 12, 2019

Ms. Carol C. Harris
Director, Information Technology Acquisition Management Issues
Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Ms. Harris:

Thank you for the opportunity to review the Government Accountability Office (GAO) draft report, *Information Technology: Agencies Need to Fully Implement Key Workforce Planning Activities* (GAO-19-188). The subject of the report is a subject that we take very seriously, and the U.S. Department of Education (the Department) has taken a number of steps over the last few years to help ensure that its Information Technology (IT) workforce is highly skilled and fully capable to perform its important duties. I am pleased to provide the Department's response to your recommendations and assessment in the proposed report.

Recommendation: The Secretary of Education should ensure that the agency fully implements each of the seven key IT workforce planning activities it did not fully implement.

Response: The Department partially concurs with this recommendation.

Discussion of the Recommendation and the Department's Assessment: Appendix II, Table 7 of the draft report reflects GAO's assessment of the Department's implementation of key IT workforce planning activities. The enclosed table contains GAO's assessment by activity in columns one through three. Column four provides updates on actions the Department has undertaken since the GAO assessment. These updates show the many steps the Department has taken to implement workforce planning activities described in Appendix II, Table 7. The Department will complete all activities referenced in column four and fully implement the seven key IT workforce planning activities assessed by GAO.

Thank you for the opportunity to provide comments and updates to GAO's assessment. If you or your staff have any questions regarding our response, please contact Ms. Felicia Bunns, the Department's Chief Learning Officer and Director of the Learning and Development Division in the Office of Human Resources, Office of Finance and Operations at (202) 401-0902 or by email at Felicia.Bunns@ed.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Carter".

Denise L. Carter
Acting Assistant Secretary

Enclosure

400 MARYLAND AVE., S.W., WASHINGTON, DC 20202
www.ed.gov

The Department of Education's mission is to promote student achievement and preparation for global competitiveness by fostering educational excellence and ensuring equal access.

Appendix XVI: Comments from the Nuclear Regulatory Commission



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

September 12, 2019

Ms. Carol C. Harris, Director
Information Technology Acquisition Management Issues
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20226

Dear Ms. Harris:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your e-mail dated August 12, 2019, which provided the NRC an opportunity to review and comment on the U.S. Government Accountability Office (GAO) draft report GAO-19-188, "Information Technology: Agencies Need to Fully Implement Key Workforce Planning Activities."

The NRC staff appreciates the opportunity to review the draft report, as well as, the GAO staff's professionalism and constructive interactions during this GAO engagement. The NRC does not agree with the findings, specifically that we have not developed competency requirements or established a workforce planning process. In 2017, the NRC formed a working group whose purpose was to develop a plan for a comprehensive, integrated, and systematic Strategic Workforce Planning (SWP) process. This process was informed by GAO's report titled "Strategic Human Capital Management: NRC Could Better Manage the Size and Composition of its Workforce by Further Incorporating Leading Practices" (GAO-17-233). This enhanced SWP process was being implemented at the time of this review, and I am happy to report that it has now been fully implemented resulting in the identification of strategies and action plans to address potential Information Technology (IT) skill gaps.

In the enclosure to this letter, we have provided comments on the current state of our IT workforce planning activities, including our efforts to identify competencies at the agency and to further strengthen that activity by joining other Federal agencies that are part of the Office of the Chief Information Officer Council to build career paths/competency models for 64 IT security roles across the Federal Government.

Thank you again for the opportunity to provide comments on the GAO report. Please feel free to contact Mr. John Jolicoeur at (301) 415-1642 or John.Jolicoeur@nrc.gov if you have questions or need additional information.

Sincerely,

A handwritten signature in blue ink that reads "Margaret M. Doane".

Margaret M. Doane
Executive Director
for Operations

Enclosure:
NRC Comments on Draft Report

**Appendix XVI: Comments from the Nuclear
Regulatory Commission**

Detailed Comments on
Draft Report GAO-19-188 Information Technology:
Agencies Need to Fully Implement Key Workforce Planning Activities

In follow-up to the draft report issued related to U.S. Government Accountability Office (GAO) -19-188: Federal Information Technology (IT) Workforce Planning, the U.S. Nuclear Regulatory Commission (NRC) provides the following response.

I. Set the Strategic Direction for IT Workforce Planning

- A. The report gave the NRC a rating of "partially implemented" for the activity of establishing and maintaining a workforce planning process, under the key step of setting the strategic direction for the agency's IT workforce. In its description, GAO found that the agency's planning process was deficient in the following areas:
- 1) Did not define the Chief Information Officer's (CIO) roles and responsibilities for implementing the activities.
 - 2) Did not describe how the plan aligns with mission goals and objectives.

The NRC believes that our plan does meet the activities above and provides the following additional information to support this belief.

- 1) Management Directive (MD) 9.22, "Organization and Functions, Office of The Chief Information Officer," defines the CIO's roles and responsibilities for implementing activities, including workforce planning by developing and maintaining the agency's IT/IM Strategic Plan and enterprise IT/IM roadmap in alignment with the NRC Strategic Plan, and reviewing all positions with IT responsibilities requested in the budget request to ensure the positions meet the ongoing requirements of the agency. MD 9.22 can be found on the NRC's public Web site at <https://www.nrc.gov/docs/ML1807/ML18073A250.pdf>
- 2) As stated in the February 2016 Strategic Workforce Plan (SWP) (submitted to GAO in our response in March of 2018), Step 1 – Strategic Alignment, was accomplished as part of the agency's Project AIM effort and continues in conjunction with the overall agencywide AIM implementation efforts. Additional information on Project AIM can be found on the agency's Web site at <https://www.nrc.gov/about-nrc/plans-performance/project-aim-2020.html>.

Additionally, in its April 2017 report GAO-17-233, "Strategic Human Capital Management: NRC Could Better Manage the Size and Composition of Its Workforce by Further Incorporating Leading Practices," GAO found that the agency had a SWP process that was aligned to agency mission and objectives and provided recommendations for improving this process. These recommendations have been addressed through the enhanced SWP process, which has since been implemented at the time of this GAO Report. This includes preparation of an agency environmental scan that is analyzed to identify the internal and external drivers that are predicted to impact workload and ultimately the workforce needed to accomplish our mission in light of these impacts. The Office of the Chief Information Officer (OCIO) has conducted this analysis and used it to update its SWP.

Enclosure

**Appendix XVI: Comments from the Nuclear
Regulatory Commission**

Detailed Comments on
Draft Report GAO-19-188 Information Technology:
Agencies Need to Fully Implement Key Workforce Planning Activities

The NRC believes we have described how our SWP plans align with the agency's mission goals and objectives outlined in the agency's Strategic Plan, which can be found on the agency's Web site at <https://www.nrc.gov/reading-rm/doc-collections/nureqs/staff/sr1614/>

- 3) Oversight for the workforce planning efforts is provided by the agency's Executive Director for Operations and the Chief Human Capital Officer. Visibility of the SWP efforts is high – including Commission briefings, and updates to staff and management on the outcomes of the planning process. The NRC is a small agency (less than 3,000). As such, our workforce planning efforts are conducted at the Office level. An organizational chart for the agency can be found on our public Web site at <https://www.nrc.gov/aboutnrc/organization/nrcorg.pdf>

- B. The report gave the NRC a rating of “partially implemented” for the activity of developing competency and staffing requirements under the key step of setting the strategic direction for the agency's IT workforce. In its description, GAO found that the agency's planning process was deficient in the following areas:

- 1) Did not develop competency requirements for its IT staff.

The NRC believes that we have met the activity above and provides the following to support this belief.

The NRC specifies competencies for all IT positions in Position Descriptions (PDs). The NRC believes this meets the intent of developing competency requirements for its IT staff, which GAO is assessing. The NRC has also joined other Federal agencies that are part of the OCIO Council to build career paths/competency models for 64 IT security roles across the Federal Government. This government-wide effort is scheduled to be completed by October, at which time the NRC will decide which of the models to adopt. This activity will further strengthen our enterprise expectations for IT competencies, as well as allow individuals to identify career development opportunities.

The NRC believes this shows that the agency has addressed all elements of the criteria and the rating should be changed to “fully implemented.” Although the government-wide effort to build career paths/competency models will strengthen our efforts in this area, we have identified the competencies needed and are able to use those competencies to assess our skill gaps.

II. Analyze the IT Workforce to Identify Skill Gaps

- A. The report gave the NRC a rating of “partially implemented” for the activity of assessing competency and staffing needs regularly under the key step of analyzing the IT workforce to identify skill gaps. In its description, GAO found that the agency was deficient in the following areas:

- 1) Did not assess competency needs regularly because, as previously stated, it did not develop competency requirements for its IT staff.

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The NRC believes that we have completed the activities above and provides the following additional documentation to support this belief.

The NRC specifies competencies for all the IT positions listed in our mission critical occupations (0080 Cybersecurity and 2210 Information Technology Management), which reflect all of the agency's IT positions. The NRC believes this meets the intent of developing competency requirements for its IT staff as we are able to use these specified competencies to analyze our IT workforce to identify skill gaps. Although the NRC is also participating in a broader government-wide activity to strengthen our enterprise expectations for IT competencies, we have fully implemented the activity of assessing staffing needs regularly through the competencies identified and through our enhanced SWP process.

- B. The report gave the NRC a rating of "partially implemented" for the activity of assessing gaps in competencies and staffing under the key step of analyzing the IT workforce to identify skill gaps. In its description, GAO found that the agency was deficient in the following areas:

- 1) Did not assess competency needs regularly because, as previously stated, it did not develop competency requirements for its IT staff.

The NRC believes that we have met the activity above and provides the following to support this belief.

- 1) The NRC specifies competencies for all IT positions in PDs. The NRC believes this meets the intent of developing competency requirements for its IT staff, which GAO is assessing. Although the NRC is also participating in a broader government-wide activity to strengthen our enterprise expectations for IT competencies, we have fully implemented the activity of assessing staffing needs regularly through the competencies identified and through our enhanced SWP process.
- 2) The NRC has developed staffing targets for all of its IT workforce. The IT positions listed in our mission critical occupations (0080 Cybersecurity and 2210 Information Technology Management) reflect all of our IT positions.

The NRC believes this evidence shows that the agency has addressed all elements of the criteria and the rating should be changed to "fully implemented."

III. Develop Strategies and Implement Activities to Address IT Skill Gaps

- A. The report gave the NRC a rating of "not implemented" for the activity of developing strategies and plans to address gaps in competencies and staffing under the key step of developing strategies and implementing activities to address IT skill gaps. In its description, GAO found that the agency was deficient in the following areas:

- 1) Did not develop strategies and plans to address gaps in staffing because the agency did not develop competency requirements for IT staff.

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The NRC believes that we have met the activities above and provides the following to support this belief.

- 1) The NRC specifies competencies for all IT positions in PDs. The NRC believes this meets the intent of developing competency requirements for its IT staff, which GAO is assessing. Although the NRC is also participating in a broader government-wide activity to strengthen our enterprise expectations for IT competencies, we have fully implemented the activity of assessing staffing needs regularly through the competencies identified and through our enhanced SWP process.
 - 2) The NRC has developed strategies and plans to address gaps in staffing. In our March 2018 response to GAO's engagement (Job Code 102588), the NRC provided Near- and Long-Term IT Competency and Staffing Requirements, along with gap closure strategies. This information was collected as a supplemental to our annual staffing plan call. In addition, in June 2019 the NRC developed strategies and action plans to address skill gaps identified through the enhanced SWP process.
- B. The report gave the NRC a rating of "minimally implemented" for the activity of implementing activities that address gaps including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities, under the key step of developing strategies and implementing activities to address IT skill gaps. In its description, GAO found that the agency was deficient in the following areas:
- 1) Did not develop strategies and plans to address gaps in competencies and staffing.
 - 2) Did not provide documentation of efforts to strengthen program management or implement career paths.
 - 3) Had not yet implemented the utilization of special hiring authorities.

The NRC believes that we have met the activities above and provides the following to support this belief.

- 1) The NRC has developed strategies and plans to address gaps in staffing. See response in III.A above.
- 2) The NRC does have a plan to strengthen program management and implement career paths. This is being done via the agency's Project Management Improvement Accountability Act Implementation Plan, which describes how the NRC intends to improve its program management capabilities, including implementing career paths. In addition, the NRC has joined other Federal agencies as part of the OCIO Council to build career paths/competency models for 64 IT security roles across the Federal Government. This initiative is expected to be completed in October 2019, at which time the NRC will determine the models applicable to our staff for adoption.
- 3) MD 10.13, "Special Employment Programs," outlines the NRC's policies on the use of special appointing authorities, including those affecting hiring of individuals with

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disabilities and qualifying veterans. MD 10.13 can be found on the agency's public Web site at <https://www.nrc.gov/docs/ML0414/ML041490168.pdf>. We have participated in the recent Vets to Feds Office of Personnel Management initiative to hire veterans into our entry level positions.

The NRC believes this evidence shows that the agency has addressed all elements of the criteria and the rating should be changed to "fully implemented."

IV. Monitoring and Reporting Progress on Addressing IT Skill Gaps

GAO's report gave the NRC a rating of "not implemented" for the activity of monitoring and reporting to agency leadership on progress in addressing competency and staffing gaps under the key step of monitoring and reporting progress on addressing IT skill gaps. In its description, GAO found that the agency was deficient because, as previously stated, the agency did not develop strategies and plans to address gaps. The NRC believes that we have met the activities above, as outlined in our response in III.A above. We believe this evidence shows that the agency has addressed all elements of the criteria and the rating should be changed to "fully implemented."

Appendix XVII: Comments from the Department of Defense



CHIEF INFORMATION OFFICER

DEPARTMENT OF DEFENSE
6000 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-6000

SEP 16 2019

Ms. Carol C. Harris
Director, Information Technology Acquisition Management Issues
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Ms. Harris:

This is the Department of Defense (DoD) response to the GAO Draft Report, GAO-19-188, "INFORMATION TECHNOLOGY: Agencies Need to Fully Implement Key Workforce Planning Activities," dated August 12, 2019 (GAO Code 102588)." The Department reviewed the report for technical accuracy and concurs with the overall content of the draft report.

The Department appreciates the opportunity to review the draft report. The point of contact for this matter is Ms. Bobbie Sanders, bobbie.h.sanders.civ@mail.mil, (703) 697-3426.

Sincerely,


for Dana Deasy

Appendix XVIII: GAO Contact and Staff Acknowledgments

GAO Contact

Carol C. Harris, (202) 512-4456, or harriscc@gao.gov

Staff Acknowledgments

In addition to the individual named above, the following staff made key contributions to this report: Sabine Paul (Assistant Director), Scott Borre (Analyst in Charge), Rebecca Eyler, Cassaundra Pham, Thomas B. Rackliff, and Marshall Williams, Jr.

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