GAO

United States Government Accountability Office

Report to Congressional Committees

February 2018

DEFENSE ACQUISITION WORKFORCE

Opportunities Exist to Improve Practices for Developing Program Managers

GAO Highlights

DEFENSE ACQUISITION WORKFORCE

Opportunities Exist to Improve Practices for Developing Program Managers

Why GAO Did This Study

The Department of Defense's (DOD) major acquisition programs continue to experience cost and schedule overruns. GAO previously found that selecting skilled program managers is a key factor to achieving successful program outcomes. DOD relies on military and civilian program managers to deliver its most expensive new weapon systems, meaning its approach to training, mentoring, retaining, and selecting program managers is critical.

House Report 114-537 included a provision for GAO to review the career paths, development, and incentives for program managers. This report addresses how leading organizations train, mentor, retain, and ultimately select program managers; and the extent to which military service practices align with those leading practices. To conduct this work, GAO identified leading practices documented in prior work and by the Project Management Institute, and interviewed commercial companies identified by the Institute as leaders in this field. GAO also analyzed military service practices for developing program managers and compared those to leading practices.

What GAO Recommends

GAO is making eight recommendations, including that the military services improve practices that do not align extensively with leading practices and make greater use of existing financial rewards for good performance. DOD concurred with the recommendations.

What GAO Found

Leading organizations use 10 key practices to train, mentor, retain, and ultimately select skilled program managers. GAO found that military service practices for developing program managers align extensively with four of the leading practices, as shown in the table below.

Leading Practices That All Military Services Align with Extensively

Leading practices	Air Force	Army	Navy
Training classes that allow program managers to share experiences	●	●	●
On-the-job learning and information repositories	●	●	●
Recognition	●	●	●
Assignment based on skills, experiences, and program needs	●	●	●

Legend: ● = extensive alignment   ◑ = partial alignment   ○ = little to no alignment
Source: GAO analysis of Department of Defense information. | GAO-18-217

At least one military service's practices do not align extensively with five of the leading practices, as shown in the table below.

Leading Practices That Not All Military Services Align with Extensively

Leading practices	Air Force	Army	Navy
Rotational assignments	●	◑	◑
Mentoring programs with senior leader involvement	●	●	◑
Career paths that describe skills needed to advance	●	◑	◑
Education subsidies	◑	●	●
Identification of high-potential talent by senior leaders	◑	●	○

Legend: ● = extensive alignment   ◑ = partial alignment   ○ = little to no alignment
Source: GAO analysis of Department of Defense information. | GAO-18-217

For the remaining leading practice, none of the military services' practices align extensively, as shown in the table below.

Leading Practice That No Military Service Aligns with Extensively

Leading practice	Air Force	Army	Navy
Financial rewards for good performance	○	◑	○

Legend: ● = extensive alignment   ◑ = partial alignment   ○ = little to no alignment
Source: GAO analysis of Department of Defense information. | GAO-18-217

Military service officials generally agreed with the assessments. More consistent alignment with leading practices—adapted for military and civilian personnel as appropriate and including greater use of existing financial rewards—would enhance the services' ability to manage acquisition programs.

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Abbreviations

AcqDemo	Civilian Acquisition Workforce Personnel Demonstration Project
DAWDF	Defense Acquisition Workforce Development Fund
DOD	Department of Defense

February 15, 2018

Congressional Committees

Our most recent assessment of the Department of Defense's (DOD) current portfolio of major defense acquisition programs found that it consists of 78 programs, including aircraft, missile interceptors, submarines, and space-based sensors.[1] We also found that the programs are now expected to cost over $1.46 trillion to acquire, which is $484 billion more than was expected when they established their first full estimates. Further, programs are now incurring an average delay of 31 months to deliver initial operating capability to the warfighter. We previously found that key factors to achieving successful cost and schedule outcomes include sound business cases, disciplined requirements setting, long-term investment strategies, and the selection of skilled, experienced, and well-trained program managers.[2]

To run these 78 major defense acquisition programs, DOD relies on military and civilian program managers tasked with developing and delivering new weapon systems while balancing factors that influence cost, schedule, and performance and ensuring that systems are high quality, supportable, and effective. To fulfill these responsibilities, program managers require a certain scope of expertise to coordinate with a broad array of military service and DOD officials, outside suppliers, and internal and external oversight entities. Therefore, DOD's approach to talent management—which we define as training, mentoring, retaining,

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[1]GAO, *Defense Acquisitions: Assessments of Selected Weapon Programs*, GAO-17-333SP (Washington, D.C.: Mar. 30, 2017). Major defense acquisition programs are those identified by DOD or with a dollar value for all increments estimated to require eventual total expenditure for research, development, test, and evaluation of more than $480 million, or for procurement of more than $2.79 billion, in fiscal year 2014 constant dollars.

[2]GAO, *Defense Acquisitions: Strong Leadership Is Key to Planning and Executing Stable Weapon Programs*, GAO-10-522 (Washington, D.C.: May 6, 2010); *Defense Acquisitions: Department of Defense Actions on Program Manager Empowerment and Accountability*, GAO-08-62R (Washington, D.C.: Nov. 9, 2007); and *Best Practices: Better Support of Weapon System Program Managers Needed to Improve Outcomes*, GAO-06-110 (Washington, D.C.: Nov. 30, 2005).

and then selecting program managers—is critical for developing the right people.[3]

The House Committee on Armed Services, in House Report 114-537, accompanying H.R. 4909 (National Defense Authorization Act for Fiscal Year 2017), included a provision for GAO to conduct a study of the career paths, development, and incentives for DOD program managers, and identify opportunities for more effective approaches.[4] This report addresses (1) how leading organizations train, mentor, retain, and select program managers and (2) the extent to which the military services' practices for training, mentoring, retaining, and selecting program managers align with those of leading organizations.

To identify how leading organizations train, mentor, retain, and select program managers, we first reviewed GAO's *Standards for Internal Control in the Federal Government* and prior GAO reports to identify criteria regarding the controls that federal agencies such as DOD should have in place to manage talent.[5] We reviewed documentation from the Project Management Institute, a not-for-profit association that provides global standards for project and program management. We also selected and spoke with four commercial companies identified by the Project Management Institute as leading organizations for developing program managers to learn about their practices. These companies were

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[3]Our definition of talent management is adapted from the Office of Personnel Management's definition of talent management, which states that it is a system that promotes a high-performing workforce, identifies and closes skill gaps, and implements and maintains programs to attract, acquire, develop, promote, and retain quality and diverse talent. It exists to ensure that organizations get the right people with the right skills into the right position at the right time so an agency can complete its mission.

[4]H.R. Rep. No. 114-537 (2016).

[5]GAO, *Standards for Internal Control in the Federal Government*, GAO-14-704G (Washington, D.C.: September 2014); *Defense Acquisition Workforce: Actions Needed to Guide Planning Efforts and Improve Workforce Capability*, GAO-16-80 (Washington, D.C.: Dec. 14, 2015); *Defense Acquisition Workforce: DOD's Training Program Demonstrates Many Attributes of Effectiveness, but Improvement Is Needed*, GAO-11-22 (Washington, D.C.: Oct. 28, 2010); GAO-10-522; *Human Capital: Transforming Federal Recruiting and Hiring Efforts*, GAO-08-762T (Washington, D.C.: May 8, 2008); GAO-08-62R; GAO-06-110; *Human Capital: A Guide for Assessing Strategic Training and Development Efforts in the Federal Government*, GAO-04-546G (Washington, D.C.: March 2004); *Human Capital: Effective Use of Flexibilities Can Assist Agencies in Managing Their Workforces*, GAO-03-2 (Washington, D.C.: Dec. 6, 2002); and *Human Capital: A Self-Assessment Checklist for Agency Leaders*, GAO/OCG-00-14G (Washington, D.C.: September 2000).

AstraZeneca, a biopharmaceutical company; Boeing, a global aerospace company; DXC Technology, an information technology services company; and Rio Tinto, a mining company. Based on these reviews and discussions, we identified a set of leading practices for developing program managers in the areas of training, mentoring, retaining, and selecting.

To identify the extent to which the military services' practices align with those of these leading organizations, we analyzed DOD, military service, and relevant sub-component documentation on training, mentoring, retaining, and selecting program managers for major defense acquisition programs. We also interviewed the Directors for Acquisition Career Management for the military services and officials from the Defense Acquisition University and the Office of Human Capital Initiatives, among others. See appendix I for more information about our scope and methodology.

We conducted this performance audit from August 2016 to February 2018 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

GAO's *Standards for Internal Control in the Federal Government* state that federal agencies—such as DOD—must demonstrate a commitment to training, mentoring, retaining, and selecting competent individuals, which would include program managers. These standards explain that federal agencies like DOD should

- provide training that enables individuals to develop competencies appropriate for key roles, reinforces standards of conduct, and can be tailored based on the needs of the role;[6]

- mentor individuals by providing guidance on their performance based on standards of conduct and expectations of competence;

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[6]The Project Management Institute defines a competency as a cluster of related knowledge, attitudes, skills, and other personal characteristics that affect a major part of one's job, correlates with performance on the job, can be measured against well-accepted standards, and can be improved by means of training and development.

- retain individuals by providing incentives to motivate and reinforce expected levels of performance and desired conduct; and

- select individuals for key roles by conducting procedures to determine whether a particular candidate fits the organization's needs and has the competence for the proposed role.[7]

The Project Management Institute, as well as four companies that we included in this review, have also identified these activities as critical for developing program managers.

Program managers for DOD's 78 major defense acquisition programs, along with program executive officers, their respective deputies, and program managers for certain non-major programs, occupy what DOD refers to as program management key leadership positions.[8] There were 446 program management key leadership positions at the end of fiscal year 2016. They are in turn part of a broader program management career field, which numbers approximately 17,000 civilian and military personnel.[9]

The Air Force typically brings its future program managers for major defense acquisition programs into the career field early in their careers, and then provides training and experiences to prepare them for the role. In contrast, the Army and Navy typically bring their future program managers into the career field later in their careers and from other fields, such as engineering. As shown in table 1, at the end of fiscal year 2016, most program manager positions for major defense acquisition programs were held by military personnel.

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[7]GAO-14-704G.

[8]DOD refers to these non-major programs as acquisition category II programs, defined as not meeting the criteria for designation as major defense acquisition programs, and having an estimated total cost of more than $185 million for research, development, test, and evaluation, or more than $835 million for procurement in fiscal year 2014 constant dollars.

[9]Program management is one of 15 career fields in the acquisition workforce. The other 14 career fields include: auditing; business (cost estimating); business (financial management); contracting; engineering; facilities engineering; industrial contract property management; information technology; life cycle logistics; production, quality, and manufacturing; purchasing; science and technology; small business; and test and evaluation.

Table 1: Types of Program Manager for Military Service Major Defense Acquisition Programs at the End of Fiscal Year 2016

| | Number of Major Defense Acquisition Programs | | | | |
Program Manager Type	Air Force	Army	Navy[a]	DOD-wide	Total
Military	15	15	29	2	**61**
Civilian	10	1	5	1	**17**
Total	**25**	**16**	**34**	**3**	78

Source: GAO analysis of DOD data. | GAO-18-217

[a]Navy data includes U.S. Marine Corps.

According to military service officials, when a military officer fills a program manager position, a civilian usually fills the deputy program manager position for that program and vice versa.

Overarching guidance, training, and oversight for the defense acquisition workforce is provided centrally by DOD in the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics, which includes Human Capital Initiatives and the Defense Acquisition University. Other officials and organizations that play key roles include

- the Defense Acquisition Functional leader for program management, who is responsible for establishing a competency model that reflects the knowledge and skills required to be successful in the career field, as well as position descriptions, requirements for key leadership positions, certification standards, and continuous learning activities;

- the Directors for Acquisition Career Management in each of the military services, who serve as key advisors for policy, coordination, implementation, and oversight of acquisition workforce programs within their services; and

- acquisition commands and program executive offices within each military service, which work together to manage acquisition programs and initiatives to improve the workforce.

Over the last decade, Congress has passed several laws aimed at bolstering the acquisition workforce and specifically the program management career field. Provisions have included requiring DOD to develop a comprehensive strategy for enhancing the role of program

managers, provide advancement opportunities for military personnel, and establish training programs for the acquisition workforce.[10]

Congress also established the Defense Acquisition Workforce Development Fund (DAWDF) in 2008 to provide funds for the recruitment, training, and retention of DOD acquisition personnel.[11] Since the establishment of DAWDF, DOD has obligated more than $3.5 billion in DAWDF funds for these purposes. Of the more than $440 million in DAWDF funds obligated in fiscal year 2016, almost $12 million was obligated for the program management career field: $0.4 million was obligated for recruitment, $10.5 million was obligated for training, and $0.9 million was obligated for retention and recognition. Additional funds supported the salaries of 33 people hired into the career field during fiscal year 2016.

To bolster the number of civilian personnel that could be selected for a program manager position, the National Defense Authorization Act for Fiscal Year 2018 requires DOD to implement a civilian program manager development program.[12] The act states that the plan for such a program shall include consideration of qualifications, training, assignments and rotations, and retention benefits, among other things.

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[10]Pub. L. No. 110-417, § 834 (2008); Pub. L. No. 110-181, § 855 (2008); Pub. L. No. 109-364, § 853 (2006).

[11]Pub. L. No. 110-181, § 852 (2008).

[12]Pub. L. No. 115-91, § 841 (2017).

Leading Organizations Use a Combination of Practices to Develop Program Manager Talent

We identified 10 practices, across four distinct areas, used by leading organizations to develop program manager talent based on our extensive review of Project Management Institute documents and discussions with AstraZeneca, Boeing, DXC Technology, and Rio Tinto.[13] These four areas correspond to the internal control standards discussed previously. Program managers at these companies share similar basic responsibilities with DOD program managers, including overseeing the development and production of goods and services in a timely and cost-effective manner. As shown in figure 1 below, leading organizations

- provide a mix of formal and informal training opportunities focused on sharing knowledge and providing experiences that prepare people for program management,

- offer mentoring opportunities to guide people along career paths toward program management,

- use a mix of financial and nonfinancial incentives to retain high performers, and

- select program managers based on identification of high-potential talent and then assign program managers based on program needs.

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[13]In some instances, these companies apply these practices to project managers rather than program managers. The Project Management Institute defines a project as a temporary endeavor undertaken to create a unique product, service, or result, and a program as a group of related projects, subprograms, and program activities that are managed in a coordinated way to obtain benefits not available from managing them individually. However, the talent management practices documented by the Project Management Institute are intended to apply to both project and program managers, and we identified company practices that would apply to program managers as well as project managers.
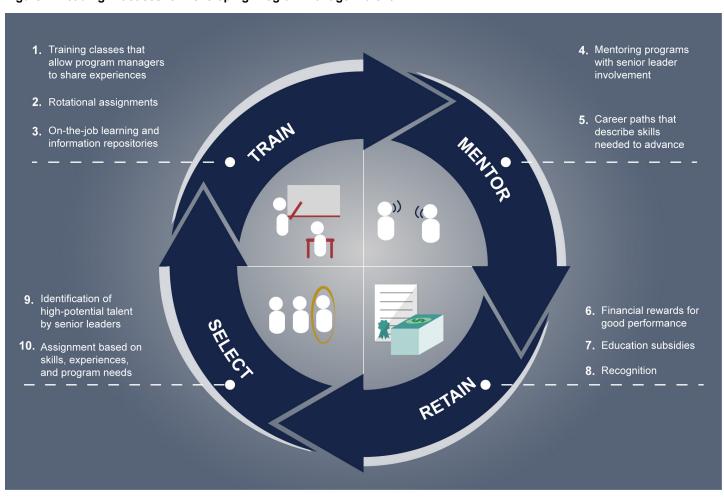
Figure 1: Leading Practices for Developing Program Manager Talent

1. Training classes that allow program managers to share experiences

2. Rotational assignments

3. On-the-job learning and information repositories

4. Mentoring programs with senior leader involvement

5. Career paths that describe skills needed to advance

6. Financial rewards for good performance

7. Education subsidies

8. Recognition

9. Identification of high-potential talent by senior leaders

10. Assignment based on skills, experiences, and program needs

Source: GAO analysis of Project Management Institute documentation and company practices. | GAO-18-217

Boeing representatives noted that by using a combination of these practices, over the past 15 years, their program managers have primarily left positions due to promotion or retirement. Rio Tinto representatives noted that in a challenging environment for finding suitable external talent, they have been able to use these practices to successfully develop most of the talent they need internally. DXC Technology representatives noted that these practices enabled their program managers to receive better feedback and address skill gaps. An AstraZeneca representative noted that these practices have made it easier for people to get the range of experiences they need to move into leadership positions.

| Leading Organizations Focus Training on Sharing Knowledge and Gaining Experience | The Project Management Institute identifies training as the most common component of development. Leading organizations we spoke with use venues like training classes to share knowledge and experiences. These organizations also expand people's knowledge and experience by encouraging rotation of talent across organizational boundaries. Leading organizations also provide access to on-the-job learning opportunities and repositories of best practices and lessons learned. Examples of practices used by commercial companies we spoke with are described below. |

Practice #1—Training classes that allow program managers to share experiences: Boeing representatives told us that the company sends employees aspiring to be program managers to a 5-day, in-residence program manager workshop. Attendees simulate challenging program management scenarios and get exposure to senior executives who discuss best practices and share experiences. They are expected to make decisions quickly, and play different roles throughout the simulation so they can gain a better understanding of the consequences of their decisions. Similarly, DXC Technology holds multiday workshops for program managers where they participate in role-playing scenarios in which they have to react to a given situation that a program manager could face. One of the key benefits of the workshop noted by DXC Technology representatives is that they receive individual feedback on areas for improvement.

Practice #2—Rotational assignments: According to Boeing representatives, the company selects high-performing midcareer employees interested in program management for a 2-year rotation program in which they take leadership roles and solve difficult challenges facing a part of the business. These could be internal assignments within an individual's current business unit, or external assignments that cross organizational boundaries, for example, between Boeing's commercial, defense, and services businesses. Boeing representatives noted this as a valuable leadership opportunity for the people involved, which helps drive change in the organizations to which they are assigned. In order to expand people's capabilities and give them a broader perspective on the business, AstraZeneca regularly notifies its workforce—via a monthly newsletter and an online portal—of rotational opportunities lasting 6 months to a year. These rotations could be within an individual's business unit, or in a different location or part of the business.

Practice #3—On-the-job learning and information repositories: Rio Tinto representatives told us that the company has managers from one

project participate in reviews and events for other projects in order to transfer knowledge. For example, a manager from a mining operation based in one country might visit a mining operation in another country to share ideas. Rio Tinto also retains the formal reviews that take place at the end of each project, as well as the lessons learned by the team itself, in an accessible document management system. Similarly, AstraZeneca uses online collaboration software to house project information that might help others. It has also established a community of practice and networking groups to share knowledge, and provides people moving into management positions a checklist of tasks and meetings to complete within their first 6 months. Boeing representatives told us that one way the company provides on-the-job training and support to program managers is by temporarily bringing in experts with prior experience to participate in a wide variety of activities across all types of programs. These activities include verifying designs and proactively identifying and resolving challenges such as manufacturing problems.

Leading Organizations Facilitate Mentoring Relationships and Establish Program Management Career Paths

The Project Management Institute identifies mentoring as a way of encouraging and supporting people. Leading organizations we spoke with have programs in place to facilitate mentor and mentee relationships. They expect senior people to serve as mentors. The organizations we spoke with also mentor employees by laying out the career paths they might need to follow to achieve the highest levels of program management within the organization. Examples of practices used by commercial companies we spoke with are described below.

Practice #4—Mentoring programs with senior leader involvement: According to Boeing representatives, the company offers voluntary mentoring programs—both formal and informal—at different points throughout an employee's career cycle, including the early stages. Depending on the career goals of an individual, Boeing offers both mentors and sponsors, who are senior leaders that nominate people—especially high performers—for specific opportunities. At Boeing, there is an expectation that senior leaders will be involved in mentoring. For example, midcareer program managers can be matched with executives based on the preferences of the two parties. Relationships are reevaluated annually. Through these relationships, mentees get exposure to critical decisions, as well as other parts of the business. Rio Tinto representatives told us that the company has a formal mentoring program targeted at high-potential talent that partners people with senior leaders, including those from different departments. Senior leaders at Rio Tinto are expected to participate in long-term career development discussions

for people two levels below them. The company also provides senior executives and other lower-level managers access to external coaches who focus more on leadership than technical company matters.

Practice #5—Career paths that describe skills needed to advance: According to DXC Technology representatives, the company has documented a program management career path that details the skills needed to be a program manager. The company annually identifies the developmental needs of employees, who can then take steps such as moving to another program to gain the required experience to address any gaps. This helps management make decisions that benefit both the individual and the company. Boeing representatives told us that the company has developed a general career path for many of its career fields, including program management, and encourages people to develop the skills they need by gaining experience in different career fields and business units. Boeing program managers we met with described the range of experiences they had within the company that equipped them for their roles, such as working on different kinds of aircraft and in technical and business functions.

Leading Organizations Use a Mix of Financial and Nonfinancial Incentives to Retain People

Leading practices identified by us and the Project Management Institute suggest that a combination of financial and nonfinancial incentives can be used to retain high performers.[14] For example, leading organizations we spoke with offer student loan repayments and financing of higher education in compensation packages as financial incentives. They also provide monetary awards to recognize excellence in job performance and contributions to organizational goals. Nonfinancial incentives could include senior leadership recognizing strong performance in program management and emphasizing the idea that program management is prestigious, challenging, and key to business success. Examples of practices used by commercial companies we spoke with are described below.

Practice #6—Financial rewards for good performance: Rio Tinto representatives told us that the company offers incentives that are based on performance. The company includes pay raises linked to annual performance ratings, which are determined by the extent to which a program manager meets objectives including cost and schedule goals.

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[14]GAO-08-762T; GAO-04-546G; GAO-03-2; and GAO/OCG-00-14G.

According to Boeing representatives, the company annually assesses program managers based on technical and financial performance measures and employee feedback. These assessments help determine annual salary increases and bonuses.

Practice #7—Education subsidies: Boeing offers tuition assistance to all people after they have been at the company for at least 1 year. This can support degree programs, professional certificates, and individual courses in fields of study at over 270 colleges and universities. Boeing representatives noted that this has helped foster a high degree of loyalty from people.

Practice #8—Recognition: Boeing representatives told us that program managers for major programs hold a high level of responsibility and accountability. When program managers are successful at running effective programs, they are often moved to larger and more complex programs with much greater responsibility. AstraZeneca announces recognition for program achievements such as meeting delivery targets via e-mail and at town hall meetings, and significant achievements can also be recognized through nomination for annual company-wide awards.

Leading Organizations Select Program Managers Based on Identification of High-Potential Talent and Alignment with Program Needs

The Project Management Institute emphasizes the importance of identifying top talent and future high performers for key roles. Leading practices for selecting program managers are rooted in the identification of high-potential talent and the alignment of that talent with program needs. Leading organizations we spoke with engage senior management in identifying high performing people and monitoring their job assignments, performance, and career progression. They also select program managers with the blend of skills, experience, knowledge, and expertise required to be effective within a particular program environment. Examples of practices used by commercial companies we spoke with are described below.

Practice #9—Identification of high-potential talent by senior leaders: Rio Tinto representatives told us that senior leaders at the company annually assess the potential and performance of its people and then classify them in one of nine categories that include those who need additional experiences and developmental opportunities, those in the right role and at the right level that need to be kept engaged, and those considered high potential who need challenging opportunities. AstraZeneca identifies and keeps track of high-potential people through annual talent assessments addressing each person's strengths and gaps,

as well as potential roles, development actions, and associated time frames. The assessments also include an individual's professional aspirations. According to Boeing representatives, the company uses its succession planning process to identify a pool of qualified people able to step into executive and program manager positions, including those who are ready to step into a role immediately, and those who need some additional development.

Practice #10—Assignment based on skills, experiences, and program needs: According to DXC Technology representatives, the company assigns program managers to roles based on a review of their demonstrated management and subject matter competencies. For example, an individual is evaluated on experience such as managing programs of a certain size or level of complexity, as well as the outcomes they achieved on those programs in terms of cost, schedule, and client feedback. An individual is also evaluated on whether he or she has the specific skills needed to manage a particular program, such as those related to data migration or software application design. Boeing representatives told us that the company takes into account a wide variety of factors when assigning a program manager to a program. Factors could include the size, dollar value, and complexity of a program, as well as the developmental needs of a program manager.

Military Service Practices Show a Mixed Level of Alignment with Leading Practices

Our analysis of the practices used by the military services to train, mentor, retain, and select program managers for major defense acquisition programs shows a mix in the level of alignment with the leading practices. We based our analysis on a review of DOD, military service, and relevant sub-component documentation on training, mentoring, retaining, and selecting program managers, including policies, guidance, strategic plans, curricula, online portals, and acquisition workforce data. Table 2 provides our assessment of the alignment of military service practices with the 10 leading practices.

Table 2: Level of Alignment of Military Service Practices with Leading Practices

Categories	Leading Practices	Level of alignment		
		Air Force	Army	Navy
Train	1. Training classes that allow program managers to share experiences	●	●	●
	2. Rotational assignments	●	◐	◐
	3. On-the-job learning and information repositories	●	●	●
Mentor	4. Mentoring programs with senior leader involvement	●	●	◐
	5. Career paths that describe skills needed to advance	●	◐	◐
Retain	6. Financial rewards for good performance	○	◐	○
	7. Education subsidies	◐	●	●
	8. Recognition	●	●	●
Select	9. Identification of high-potential talent by senior leaders	◐	●	○
	10. Assignment based on skills, experiences, and program needs	●	●	●

Legend: ● = extensive alignment ◐ = partial alignment ○ = little to no alignment

Source: GAO analysis of DOD information. | GAO-18-217

Note: Extensive alignment means service's practice contains all elements of leading practice and is not limited to subset of population. Partial alignment means service's practice contains some elements of leading practice or is limited to subset of population. Little to no alignment means service's practice contains minimal or no elements of leading practice.

Practices used by each of the military services align extensively with 4 of the 10 leading practices. For 5 of the 10, practices used by at least one of the military services do not align extensively with leading practices, and for the remaining practice related to financial rewards for good performance, none of the services' practices align extensively. We discussed these assessments with each military service Director for Acquisition Career Management, and they generally agreed with our assessments.

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Practices for All of the Military Services Align Extensively with 4 of the 10 Leading Practices

Military service practices align extensively with four of the leading practices, as shown in table 3 below.

Table 3: Military Service Practices that Align Extensively With Leading Practices

	Level of alignment		
Leading Practices	Air Force	Army	Navy
1. Training classes that allow program managers to share experiences	●	●	●
3. On-the-job learning and information repositories	●	●	●
8. Recognition	●	●	●
10. Assignment based on skills, experiences, and program needs	●	●	●

Legend: ● = extensive alignment ◑ = partial alignment ○ = little to no alignment

Source: GAO analysis of DOD information. | GAO-18-217

Note: Extensive alignment means service's practice contains all elements of leading practice and is not limited to subset of population. Partial alignment means service's practice contains some elements of leading practice or is limited to subset of population. Little to no alignment means service's practice contains minimal or no elements of leading practice.

For the first practice, alignment is largely the result of steps taken by DOD to comply with the Defense Acquisition Workforce Improvement Act, enacted as part of the National Defense Authorization Act for Fiscal Year 1991.[15] This legislation set forth education, training, and experience requirements that program managers must meet prior to being assigned to a major defense acquisition program or significant non-major defense acquisition program. All four practices that have extensive alignment reflect a combination of DOD-wide initiatives and approaches unique to the military services. The following summarizes our assessment of these practices.

Practice #1—Training classes that allow program managers to share experiences: DOD provides centralized training that brings together current and prospective program managers to strengthen their skill sets and share their experiences. The Defense Acquisition University has developed a training curriculum of courses that people must complete—in

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[15]Pub. L. No. 101-510 (1990).

conjunction with experience and education standards—to be certified as ready to take on increasingly challenging assignments.[16] The highest level courses required for program managers incorporate simulations, case studies, senior agency and industry speakers, and team projects to strengthen participants' analytical, critical thinking, and decision-making skills. According to a Defense Acquisition University official, each year approximately 350 people attend these courses. According to the military services' Directors for Acquisition Career Management, all current major defense acquisition program managers met their certification requirements.

The military services have also developed their own training for program managers that brings peers together and addresses service-specific issues. For example, the Navy has established program management colleges at its largest systems commands.[17] These colleges teach curricula specific to Navy processes. The Navy also provides approximately 200 program managers each year with training courses focused on understanding commercial industry and managing relationships with contractors. These classes, offered through business schools, are taught by academic faculty, senior naval officials, and private sector executives and focus on factors program managers need to be aware of to understand industry behavior and decision-making.

According to DOD's acquisition workforce strategic plan for fiscal years 2016 through 2021, the department intends to improve the type of training it provides program managers, the timing of when courses are provided, and the delivery method. The plan also noted DOD's intent to strengthen

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[16]Level I (basic) certification in program management requires completion of introductory training focused on acquisition fundamentals, and one year of acquisition experience with cost, schedule, and performance responsibilities. Level II (intermediate) certification requires completion of intermediate acquisition training as well as training on contract planning, execution, and management, among other areas, and two years of program management with cost, schedule, and performance responsibilities. Level III (advanced) certification requires training on topics including business acumen and financial management, as well as additional years of experience in certain roles. Level III certification is also a prerequisite for managing a major defense acquisition program, along with additional training and experience requirements.

[17]Naval Air Systems Command and Naval Sea Systems Command are the naval entities responsible for delivering and supporting aircraft and ships, respectively, as well as associated systems, and are the Navy's two largest systems commands. A number of the Navy's program manager talent management practices are managed at the systems command level, and in this report we are addressing those managed by these two commands.

qualification requirements for program management positions by further developing the list of proficiencies associated with certifications, including leadership skills for all levels and technical skills needed by those in the "beginner" and "intermediate" level program management positions. In September 2016, the defense acquisition functional leader for program management finalized and issued this list.

Practice #3—On-the-job learning and information repositories: Each of the services provides its own unique on-the-job training or repositories to share lessons learned from acquisition programs. The Air Force provides people in the program management career field with detailed task lists that support on-the-job learning along their career paths. For example, people are encouraged to demonstrate competence in areas such as schedule management. The Army has developed an online portal that houses lessons learned from acquisition programs that were documented around program milestones or upon termination. Users can view and search lessons submitted by others, participate in discussion forums, and reference acquisition case histories. The portal contains over 800 lessons learned, with over 400 relating specifically to program management. The Navy has created a series of physical "war rooms" that display materials on the evolution and organization of the Navy, the service's acquisition history, how to manage a major program, the unique challenges of ship building, and case studies. The Navy hosts a 5-day training program for program managers in these rooms in order to transfer lessons learned from previous acquisition programs. The Defense Acquisition University has also established an online program management community of practice that houses a range of tools and documents that communicate lessons learned.

Practice #8—Recognition: DOD leadership acknowledges the challenges and importance of program management by designating the most senior positions in the career field—including program managers—as key leadership positions. These positions require a significant level of authority commensurate with the responsibility and accountability for acquisition program success. Based on our analysis of DOD acquisition workforce data, while the program management career field represents just over 10 percent of the overall acquisition workforce, it accounts for almost 40 percent of key leadership positions.

Senior leadership in each of the services also provides their own types of recognition for good performance in program management. For example, each service has an annual award recognizing high-performing program managers. In addition, program management is an award category for the

DOD-wide Defense Acquisition Workforce Individual Achievement Award, which includes recognition for winners at an awards ceremony held at the Pentagon.

Practice #10—Assignment based on skills, experiences, and program needs: All of the services evaluate the skills and experiences of candidates for program manager roles, and ensure they have the required qualifications. As part of their processes for filling these roles, the services take note of specific needs associated with a program. In the Army, civilian and military personnel apply each year and are competitively selected by a board of senior Army acquisition leaders who use instructions from the Secretary of the Army to select the best qualified individuals. Once selected by the board, the Army uses another process to match the skills and experience of the individual to those required by the program manager position based on factors such as functional, technical, and educational experience.

In the Navy, civilian and military personnel apply and compete for specific programs. As part of the documentation of candidate selection, the Navy requires a description of how the candidate's skills align with the current status of the program. The Air Force designates whether a program will have a military or civilian program manager in advance. The senior official who approves program manager selections considers program needs along with individual qualifications and functional requirements. In addition, the military services consult with the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics on the selection of program managers for those programs where that office is the decision authority.

For Half the Leading Practices, There Is at Least One Military Service with Practices That Do Not Align Extensively

For five of the leading practices, at least one of the military services' practices do not align extensively, as shown in table 4 below.

Table 4: Leading Practices with Which at Least One Military Service Does Not Align Extensively

	Level of alignment		
Leading Practices	**Air Force**	**Army**	**Navy**
2. Rotational assignments	●	◑	◑
4. Mentoring programs with senior leader involvement	●	●	◑
5. Career paths that describe skills needed to advance	●	◑	◑
7. Education subsidies	◑	●	●
9. Identification of high-potential talent by senior leaders	◑	●	○

Legend: ● = extensive alignment ◑ = partial alignment ○ = little to no alignment

Source: GAO analysis of DOD information. | GAO-18-217

Note: Extensive alignment means service's practice contains all elements of leading practice and is not limited to subset of population. Partial alignment means service's practice contains some elements of leading practice or is limited to subset of population. Little to no alignment means service's practice contains minimal or no elements of leading practice.

The following summarizes our assessment of instances in which one or two military services may be using a leading practice, but not all three services. We also identify examples of military service actions that could serve as a model for meeting those leading practices.

Practice #2—Rotational assignments: Each of the services provides civilian and military program management personnel with opportunities to rotate internally among other units or functions. However, while the military services have identified external rotations with industry as a way to gain valuable experience and improve people's business acumen, practices in this area vary. For example,

- The Air Force has an external industry rotation program that is open to both civilian and military personnel. In total, about seven military and civilian program management personnel participate in this program each year, according to the Air Force Director for Acquisition Career Management.

- The Army's external industry rotation program is open only to military personnel, and approximately 11 program management personnel participate each year, according to the Army Director for Acquisition Career Management. The Director also noted that some local Army organizations send civilian personnel on industry rotations, but was not aware of participation by civilian personnel in the program management career field.

- The Navy uses the Secretary of Defense Executive Fellows program to provide experience with commercial industry. This program is open to participants from all the military services. Until 2017, participation in the program was restricted to only military personnel.[18] Over the past 5 years, between two and five Navy military acquisition personnel per year participated in the program, according to the Navy Director for Acquisition Career Management.

The Directors for Acquisition Career Management noted that two of the inherent difficulties with sending civilians on potentially year-long industry rotations are that their organizational unit would need to fund the participant's travel costs, and would also need to find people to perform the participant's duties in their absence.[19] The Air Force's industry rotation program avoids the travel cost problem by finding civilians opportunities with local companies. In addition, the program is targeted at more junior personnel than the programs used by either the Army or Navy, reducing the difficulty of filling their position while they are on a rotation. As a result of the focus on military personnel participating in industry rotations, civilian personnel in the Army and Navy miss an opportunity to improve their business acumen and gain valuable experience that would better prepare them for program manager roles. They could benefit from consideration of the approaches taken by the Air Force.

Practice #4—Mentoring programs with senior leader involvement: Each of the services offers some kind of voluntary mentoring program. However, only the Air Force and Army have a documented expectation that senior civilian and military personnel serve as mentors. The Navy

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[18]The first civilian participant in this program is from the Navy's program management career field.

[19]Participation by military personnel in such industry rotations generally involves permanent changes of station, which are funded through the service's military personnel program budgets, and which enable positions to be filled once an individual is at the company location.

provides a range of mentoring resources, but only has a documented expectation that senior military personnel serve as mentors. The Navy Director for Acquisition Career Management agrees that this expectation is not documented for civilians, but believes that senior civilian leaders in program management are aware that mentoring is a responsibility. However, because it is not documented, some senior civilian leaders might not be aware of this expectation.

Practice #5—Career paths that describe skills needed to advance: Each of the services has outlined the steps people need to take to become program managers and provided opportunities for both civilians and military to advance to these and even higher level positions. However, the descriptions of the skills people should obtain to advance along the various career paths are inconsistent among the services.

- The Air Force includes the skills and competencies people need to achieve specific career goals in the competency-based task lists previously discussed as a tool to support on-the-job learning. The task lists are the same for civilian and military personnel.

- The Army describes the skills and competencies civilians need to advance via a one-page roadmap. While there is a one-page roadmap for military personnel, it does not discuss or link to skills and competencies. The online version of the civilian roadmap includes direct links to an existing DOD tool that people can use to identify and address gaps in their experience and capture demonstrated experience in a wide range of program management competencies, such as stakeholder management.[20] People and their supervisors are encouraged to use this tool to develop individual career development plans. The tool also provides a common set of standards that organizations can use to mitigate skill gaps through hiring or using developmental opportunities.

- The Navy's systems command responsible for delivering and supporting aircraft provides a career roadmap for the program management career field, as well as detailed descriptions of the different levels of skills and competencies needed to advance.

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[20]The tool, known as the Acquisition Workforce Qualification Initiative, stems from the implementation directive for DOD's Better Buying Power 2.0 initiative issued in April 2013, and specifically the effort to establish increased professional qualification requirements for all acquisition specialties. DOD developed standards and tasks for each acquisition career field by competency.

However, the systems command responsible for delivering and supporting ships does not have a formal career roadmap.

Both Army and Navy Directors for Acquisition Career Management are aware of these inconsistencies, and are working to put approaches in place in fiscal year 2018 to address them and ensure that key groups in the program management career field are not missing important information about skills they should develop.

Practice #7—Education subsidies: All the services offer tuition assistance to military and civilian personnel to further their education, which has helped increase the percentage of program management personnel with a graduate degree from 46 percent in fiscal year 2008 to 57 percent in fiscal year 2016. The services also offer student loan repayments, but use them for different purposes. The Army and Navy use DAWDF-funded student loan repayments—and the requirement that recipients sign an agreement to serve for 3 years—as a retention tool for program management personnel.

However, the Air Force only uses these repayments as a recruiting tool, despite the fact that they can be used for both recruitment and retention. This decision stems from the results of a 2016 study the Air Force commissioned from the RAND Corporation that found limited utility in offering retention bonuses as a tool to retain talent. The Director for Acquisition Career Management told us that the Air Force is scaling back its use of all financial retention incentives and prefers to use student loan repayments as a recruiting tool. The service agreement therefore only covers the early part of someone's career with the Air Force, instead of being a way to drive retention of more senior personnel. Prior GAO work has found that financial retention incentives are among the most effective flexibilities that agencies have for managing their workforce, and that insufficient use of existing flexibilities can significantly hinder the ability of agencies to retain and manage personnel.[21]

Practice #9—Identification of high-potential talent by senior leaders: The Army regularly and systematically involves senior management in identifying high-potential program management talent among civilian and military personnel. It requires senior managers to annually evaluate the leadership potential of all civilian acquisition personnel at midcareer or above, and the Army's annual evaluation for all military officers assesses

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[21]GAO-08-762T; and GAO-03-2.

their potential for positions of greater responsibility. The Air Force has a similar process for military personnel, but not civilians. The onus is on civilian personnel to nominate themselves for development programs and resources, rather than being identified and guided toward those opportunities by senior leaders. The Navy only identifies high-potential military and civilian talent on an informal basis, which varies across the service. The Air Force and Navy risk overlooking high-potential talent as a result of their approaches. The Directors for Acquisition Career Management for both services acknowledge the ad hoc nature of their practices, and are looking into steps they could take in fiscal year 2018 to more systematically identify high-potential talent.

None of the Military Services' Practices Align Extensively with the Practice of Providing Financial Rewards for Good Performance

None of the military services' practices align extensively with leading practices for providing financial rewards for good performance, as shown in table 5 below.

Table 5: Leading Practice with Which None of the Military Services' Practices Align Extensively

	Level of alignment		
Leading Practice	Air Force	Army	Navy
6. Financial rewards for good performance	○	◐	○

Legend: ● = extensive alignment ◐ = partial alignment ○ = little to no alignment
Source: GAO analysis of DOD information. | GAO-18-217

Note: Extensive alignment means service's practice contains all elements of leading practice and is not limited to subset of population. Partial alignment means service's practice contains some elements of leading practice or is limited to subset of population. Little to no alignment means service's practice contains minimal or no elements of leading practice.

Commercial companies have more flexibility than DOD to financially reward good performance. They are not subject to the legal restrictions on compensation that federal agencies must consider, and can offer types of compensation, such as stock options, that federal agencies cannot.[22] Despite this, DOD has mechanisms to financially reward high-performing people. However, these incentives are either unavailable to all

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[22]For example, according to the Office of Personnel Management, a General Schedule employee may not receive any portion of any allowance, differential, bonus, award, or other similar payment under title 5 of the U.S. Code, in any calendar year, which when combined with the employee's basic pay would cause the employee's aggregate compensation (including premium pay) to exceed the rate for level I of the Executive Schedule at the end of the calendar year.

program management personnel because of the various pay systems used by DOD, or are underutilized by the military services. For example, military and civilian personnel are compensated under different systems. Military pay and allowances are delineated in Title 37 of the U.S. Code, and while there are provisions for retention bonuses that would cover acquisition officers, there are none that reward high performance.[23]

Most DOD civilian personnel, on the other hand, are covered by the General Schedule classification, a pay system that is used in many agencies across the federal government. For the most part, people in this pay system receive set pay increases as long as their performance is at an acceptable level. The military services also have the option to convert civilian personnel to the Civilian Acquisition Workforce Personnel Demonstration Project, known as AcqDemo, where people including those in the program management career field have the opportunity to earn varying levels of pay increases or bonuses based on their performance.[24]

The military services' use of AcqDemo varies. According to AcqDemo data collected by DOD's Human Capital Initiatives office, as of the end of fiscal year 2016, approximately 64 percent of the Army's civilian program management workforce is covered by the system. Army officials told us that the level of coverage has increased since then, and that organizations containing the remaining eligible workforce are considering participation in fiscal year 2018. Furthermore, officials told us that all Army program managers are covered by AcqDemo. However, only 38 percent of the Navy's civilian program management workforce is covered by the system, and 29 percent of the Air Force's. According to the AcqDemo program manager and the Air Force and Navy Directors for Acquisition Career Management, organizations are hesitant to extend coverage because they are apprehensive about whether what is currently a demonstration program will become permanent, and the time it takes management to reach formal agreement with local bargaining units. The greater coverage of AcqDemo across the Army's civilian program management workforce compared to the Air Force and Navy suggests

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[23]For example, section 332 of title 37 provides the service secretaries authority to pay bonuses for commissioning or remaining in a uniformed service.

[24]DOD implemented AcqDemo in 1999. Among other initiatives, AcqDemo simplifies the hiring process and allows for more flexibility in determining compensation. It promotes greater compensation for those who are the highest contributors to the organization's mission based on factors such as level of effort and required skills and certifications.

that these two services may have opportunities to learn lessons from the Army's experience.

Congress recently took actions that could address some of the concerns about AcqDemo. The National Defense Authorization Act for Fiscal Year 2018, for example, extends the authorized timeline for AcqDemo use from December 31, 2020 to December 31, 2023, and increases the total number of people who may participate in the program at any one time from 120,000 to 130,000.[25] As of February 2017, a total of approximately 36,000 people across DOD were participating in AcqDemo.

The military services can also use DAWDF funding to recognize high-performing civilian personnel, but have only made limited use of this funding for program management personnel. The Directors for Acquisition Career Management reported the following awards between fiscal years 2008 and 2017:

- The Air Force awarded $5,000 to one recipient in fiscal year 2017.

- The Army awarded a total of $70,000 to 351 recipients on one team in fiscal year 2015.

- The Navy awarded a total of $10,000 to seven recipients between fiscal years 2008 and 2017.

Requests for DAWDF funds are left to the discretion of acquisition commands. According to the military services' Directors for Acquisition Career Management, local commanders are not frequently requesting DAWDF funds for program management recognition awards. One director stated that this was because they want to avoid the perception of treating civilian personnel differently from military personnel. As a result, the military services are missing an opportunity to financially reward good performance and potentially losing talented civilians by not using all available retention tools. The Army Director stated that Army organizations have also used other financial performance incentives, such as spot awards for civilian program management personnel that are not funded by DAWDF. This director also noted that government-wide budgetary limitations for individual monetary awards have reduced the flexibility to offer rewards for performance.

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[25]Pub. L. No. 115-91, § 844 (2017).

The National Defense Authorization Act for Fiscal Year 2018 requires DOD to commission a review of military and civilian program manager incentives, including a financial incentive structure to reward program managers for delivering capabilities on budget and on time.[26] This represents an opportunity for DOD to identify and begin to address concerns about the equitable treatment of civilian and military program management personnel.

Conclusions

The military services recognize that they need skilled program managers to develop acquisition programs and have taken steps to develop that top-notch talent. Of note, DOD has developed a solid training regimen and established minimum training, experience, and education requirements for people to manage acquisitions of various dollar thresholds. The services have also established repositories that share lessons learned and provide on-the-job learning opportunities to supplement the formal training.

Yet, when compared to leading practices, we found that several practices used by the military services for training, mentoring, retaining, and selecting people for program manager positions could be improved. For instance, the Air Force has practices that extensively align with all leading practices for training and mentoring, but we identified some practices for retaining and selecting program managers that do not. We assessed the Army as having practices that extensively align with all leading practices for selecting program managers, but identified some practices for training, mentoring, and retaining program managers that do not. We assessed the Navy as having practices that do not extensively align with leading practices in each of the areas of training, mentoring, retaining, and selecting program managers.

In nearly all cases, the military services could improve their practices by learning from ideas and initiatives being used by another military service or by commercial companies and ensuring that civilian and military personnel have similar opportunities to develop. While commercial companies have more flexibility in providing financial incentives to their program managers, the military services could make greater use of financial mechanisms provided by Congress—such as DAWDF and AcqDemo—to reward high performing civilian personnel. DOD also has

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[26]Pub. L. No. 115-91, § 841(b) (2017).

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an opportunity to identify for Congress any concerns about the equitable treatment of civilian and military program management personnel when it comes to rewarding good performance. Taking these actions could encourage high-potential talent to remain in the program management career field and strengthen the next generation of program managers.

Recommendations for Executive Action

We are making a total of eight recommendations, including three to the Air Force, two to the Army, and three to the Navy. Specifically:

The Secretary of the Air Force should take steps to address areas of civilian and military program manager retention and selection that do not align extensively with leading practices. This could include using approaches already used by the other military services or commercial companies. (Recommendation 1)

The Secretary of the Air Force should make greater use of existing financial mechanisms such as DAWDF to recognize high performers. (Recommendation 2)

The Secretary of the Air Force should identify lessons learned by the Army related to the Army's experience to extend coverage of AcqDemo across the civilian program management workforce. (Recommendation 3)

The Secretary of the Army should take steps to address areas of civilian and military program manager training, mentoring, and retention that do not align extensively with leading practices. This could include using approaches already used by the other military services or commercial companies. (Recommendation 4)

The Secretary of the Army should make greater use of existing financial mechanisms such as DAWDF to recognize high performers. (Recommendation 5)

The Secretary of the Navy should take steps to address areas of civilian and military program manager training, mentoring, retention, and selection that do not align extensively with leading practices. This could include using approaches already used by the other military services or commercial companies. (Recommendation 6)

The Secretary of the Navy should make greater use of existing financial mechanisms such as DAWDF to recognize high performers. (Recommendation 7)

The Secretary of the Navy should identify lessons learned by the Army related to the Army's experience to extend coverage of AcqDemo across the civilian program management workforce. (Recommendation 8)

Agency Comments and Our Evaluation

We provided a draft of this report to DOD for review and comment. In its written comments, reproduced in appendix II, DOD concurred with our eight recommendations and in some cases identified ongoing efforts among the military services to address the recommendations and increase alignment with leading practices. In addition, DOD noted the importance of addressing restrictions on how it can reward and retain military personnel, and requested that this issue be included in an ongoing study of DOD workforce incentives.

DOD also stated that some of its recent accomplishments and improvements were not mentioned in the report. For example, DOD noted that representatives from the program management community meet regularly to discuss and share lessons learned and best practices. Recent accomplishments include updated competencies, career tracking and development tools, and improvements to classroom and online training. Our report recognizes the progress made by DOD in these areas and highlights some specific examples. We also agree that there is a broader range of efforts underway to enhance the development of program managers.

We are sending copies of this report to the appropriate congressional committees; the Secretary of Defense; and the Secretaries of the Air Force, Army, and Navy. In addition, the report is available at no charge on the GAO website at http://www.gao.gov.

If you or your staff have any questions about this report, please contact me at (202) 512-4841 or sullivanm@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix III.

Michael J. Sullivan, Director
Acquisition and Sourcing Management

List of Committees

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

The Honorable Thad Cochran
Chairman
The Honorable Dick Durbin
Ranking Member
Subcommittee on Defense
Committee on Appropriations
United States Senate

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

The Honorable Kay Granger
Chairwoman
The Honorable Pete Visclosky
Ranking Member
Subcommittee on Defense
Committee on Appropriations
House of Representatives

Appendix I: Objectives, Scope, and Methodology

This report addresses (1) how leading organizations train, mentor, retain, and select program managers and (2) the extent to which military service practices for training, mentoring, retaining, and selecting program managers align with those of leading organizations.

To identify how leading organizations train, mentor, retain, and select program managers, we first reviewed GAO's *Standards for Internal Control in the Federal Government* to identify criteria regarding the controls that federal agencies such as the Department of Defense (DOD) should have in place to manage talent.[1] To identify leading practices for implementing these internal control standards, we first reviewed key documentation, including relevant legislation and prior GAO reports related to program management.[2] We also reviewed prior GAO reports on managing the federal workforce, and in particular those reports that addressed retention mechanisms.[3] We obtained and reviewed documentation from the Project Management Institute, a not-for-profit association that provides global standards for project and program management, related to program management and managing talent. We also worked with the Project Management Institute to identify suitable companies for us to approach to learn about leading practices, based on their membership in the Project Management Institute's Global Executive Council, and insights from Project Management Institute representatives regarding these companies' practices for training, mentoring, retaining, or

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

[2]GAO, *Defense Acquisition Workforce: Actions Needed to Guide Planning Efforts and Improve Workforce Capability*, GAO-16-80 (Washington, D.C.: Dec. 14, 2015); *Defense Acquisition Workforce: DOD's Training Program Demonstrates Many Attributes of Effectiveness, but Improvement Is Needed*, GAO-11-22 (Washington, D.C.: Oct. 28, 2010); *Defense Acquisitions: Strong Leadership Is Key to Planning and Executing Stable Weapon Programs*, GAO-10-522 (Washington, D.C.: May 6, 2010); *Defense Acquisitions: Department of Defense Actions on Program Manager Empowerment and Accountability*, GAO-08-62R (Washington, D.C.: Nov. 9, 2007); and *Best Practices: Better Support of Weapon System Program Managers Needed to Improve Outcomes*, GAO-06-110 (Washington, D.C.: Nov. 30, 2005). National Defense Authorization Act for Fiscal Year 2008, Pub. L. No. 110-181, § 855 (2008); and John Warner National Defense Authorization Act for Fiscal Year 2007, Pub. L. No. 109-364, § 853 (2006).

[3]GAO, *Human Capital: Transforming Federal Recruiting and Hiring Efforts*, GAO-08-762T (Washington, D.C.: May 8, 2008); *Human Capital: A Guide for Assessing Strategic Training and Development Efforts in the Federal Government*, GAO-04-546G (Washington, D.C.: March 2004); *Human Capital: Effective Use of Flexibilities Can Assist Agencies in Managing Their Workforces*, GAO-03-2 (Washington, D.C.: Dec. 6, 2002); and *Human Capital: A Self-Assessment Checklist for Agency Leaders*, GAO/OCG-00-14G (Washington, D.C.: September 2000).

selecting program managers. We spoke with or visited these companies,
and where possible, companies provided relevant documentation to
support their examples. The selected companies were the following:

- AstraZeneca is a biopharmaceutical company that focuses on the
  discovery, development, and commercialization of prescription
  medicines. AstraZeneca reported total revenues of $23 billion in 2016.

- Boeing Company is a global aerospace company and manufacturer of
  commercial airplanes and defense, space, and security platforms and
  systems. Boeing reported total revenues of $94.6 billion in 2016.

- DXC Technology is an end-to-end information technology services
  company. Created by the merger of CSC and the Enterprise Services
  business of Hewlett Packard Enterprise, DXC Technology serves
  nearly 6,000 private and public sector clients across 70 countries,
  delivering next-generation information technology services and
  solutions.

- Rio Tinto is a metal and minerals mining company that finds, mines,
  processes, and markets mineral resources including iron ore,
  aluminum, copper, diamonds, and energy. Rio Tinto reported total
  revenues of $33.8 billion in 2016.

Based on our review of Project Management Institute documentation and
prior GAO reports, as well as our discussions with commercial
companies, we identified a set of leading practices for training, mentoring,
retaining, and selecting program managers. We shared this set of leading
practices with Project Management Institute representatives and made
adjustments based on their feedback.

To identify the extent to which military service practices align with those of
leading organizations, we analyzed DOD, military service, and relevant
sub-component documentation on training, mentoring, retaining, and
selecting program managers for DOD's current portfolio of 78 major
defense acquisition programs as defined in our most recent assessment
of the portfolio.[4] We also interviewed the following DOD and military
service organizations during our review:

- Office of the Under Secretary of Defense for Acquisition, Technology
  and Logistics, Office of Human Capital Initiatives.

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[4]GAO, *Defense Acquisitions: Assessments of Selected Weapon Programs*,
GAO-17-333SP (Washington, D.C.: Mar. 30, 2017).

- Office of the Under Secretary of Defense for Personnel and
  Readiness, Office of the Defense Civilian Personnel Advisory Service.

- Office of the Assistant Secretary of Defense for Acquisition

- Defense Acquisition University.

- Department of the Air Force Director for Acquisition Career
  Management.

- Department of the Army Director for Acquisition Career Management.

- Department of the Navy Director for Acquisition Career Management.

- 4th Estate Director for Acquisition Career Management.

- Naval Air Systems Command.

- Naval Sea Systems Command.

We also interviewed a former Assistant Secretary of the Army and Deputy
Assistant Secretary of the Air Force with expertise in defense acquisition.
We used pertinent documentation and information from interviews with
officials to assess the extent to which each of the services' practices
aligned with leading practices. Specifically, we assigned ratings for three
levels of alignment. Extensive alignment means that the service's practice
contains all of the elements of the leading practice and is not limited to a
subset of the population. Partial alignment means that the service's
practice contains some, but not all, elements of the leading practice, or is
limited to a subset of the population, such as military or civilian personnel
only, or a particular organization within the service. Little to no alignment
means that the service's practice contains minimal or no elements of the
leading practice. The following is a list of elements for each practice:

1. Training classes that allow program managers to share experiences:
   Training classes that involve current or prospective program
   managers and that allow for knowledge and experience sharing.

2. Rotational assignments: Internal and external—that is, industry—
   rotational assignments available to military and civilian personnel.

3. On-the-job learning and information repositories: Resources that
   provide access to guidance on how to perform program management
   activities and learn from past program management experiences.

4. Mentoring programs with senior leader involvement: Existence of
   programs that facilitate mentor-mentee relationships and expectation
   that senior personnel serve as mentors.

5. Career paths that describe skills needed to advance: Documentation for military and civilian personnel of skills needed at different stages of career path(s) to becoming a program manager.

6. Financial rewards for good performance: Consistent use of DAWDF to fund recognition awards for 1 percent or more of civilian program management personnel and AcqDemo coverage of a majority of the civilian program management workforce.[5]

7. Education subsidies: Tuition assistance for further education and use of DAWDF-funded student loan repayments as a retention—versus recruitment—tool.

8. Recognition: Senior-level recognition of prestige and challenging nature of program manager role and of good performance in the role.

9. Identification of high-potential talent by senior leaders: Processes for senior leaders to assess military and civilian program management personnel and identify those considered high potential.

10. Assignment based on skills, experiences, and program needs: Program manager selection processes that assess candidate skills and experiences and specific needs of a program.

One analyst performed the initial assessment for each service, and the supporting evidence was then reviewed by the Assistant Director, with any disagreement discussed and resolved as a team. These discussions also informed requests for more information and documentation from each of the services. Assessments were updated based on what was provided by the services. We also reviewed the military services' practices for approaches that one or more services had adopted that aligned with leading practices, and that could potentially be adopted by the other services to improve their alignment. We shared our assessments with the military service Directors for Acquisition Career Management to give them the opportunity to note additional approaches or initiatives that might inform our assessments, and incorporated their input as appropriate.

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[5]We conservatively set a minimum threshold of 1 percent of civilian program management personnel receiving recognition awards funded by DAWDF, and these awards being made consistently over multiple years, for a military service to be credited with fulfilling this element of this practice. Given DOD's stated goals of establishing AcqDemo as the personnel management system for its acquisition workforce and expanding participation, we set a minimum threshold of 50 percent of the civilian program management workforce being covered by AcqDemo for a military service to be credited with fulfilling this element of this practice.

We reviewed data from DataMart, DOD's acquisition workforce database, on the composition of the acquisition workforce and the program management career field as of the end of fiscal year 2016, including the extent of coverage of the Civilian Acquisition Workforce Personnel Development (AcqDemo) project.[6] To assess the reliability of DOD's DataMart data, we (1) reviewed existing information about the data and the system that produced them, (2) interviewed knowledgeable agency officials, and (3) reviewed written answers to questions about the system's data reliability, including data collection and entry, underlying data sources, and use of internal controls. We determined that the data were sufficiently reliable for the purposes of our reporting objectives.

We conducted this performance audit from August 2016 to February 2018 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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[6]DOD implemented AcqDemo in 1999. Among other initiatives, AcqDemo simplifies the hiring process and allows for more flexibility in determining compensation. It promotes greater compensation for those who are the highest contributors to the organization's mission based on factors such as level of effort and required skills and certifications.

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ACQUISITION,
TECHNOLOGY
AND LOGISTICS

JAN 2 6 2018

Mr. Michael J. Sullivan
Director, Acquisition and Sourcing Management
U.S. Government Accountability Office
441 G Street, N.W.
Washington, DC 20548

Dear Mr. Sullivan:

This is the Department of Defense (DoD) response to the GAO Draft Report, GAO-18-217, "DEFENSE ACQUISITION WORKFORCE: Opportunities Exist to Improve Practices for Developing Program Managers," dated December 15, 2017 (GAO Code 101108). Detailed comments on the report recommendations are enclosed.

DoD appreciates GAO's review and assessment of the Department's efforts to develop program managers. We find that many of the comments and recommendations are insightful and/or validate current priorities. However, we believe the report somewhat understates or does not address many other effective practices carried out within or across the Services that are associated with program manager development. Program management community representatives meet regularly to discuss and share lessons learned and best practices. Recent accomplishments and improving trends are indicated by collaboration that has led to updated program management competencies, career tracking and development tools, improvements to classroom and online training and certification requirements, an overall community development strategy, insightful community studies, etc. Many of these practices are currently being studied and adopted by other parts of the Federal government.

Additionally, while the report mentions that there are statutory restrictions on how we can reward high performing military officers, restrictions on how to reward and retain military personnel should not be understated. We feel that current rules pertaining to rewards and retention for high performing military officers should be investigated to determine if other tools would be beneficial with the modification of statutes. Therefore, we requested that options for military personnel be included in the ongoing directed study originally aimed at incentives for the civilian workforce. Questions regarding this response should be directed to Mr. Kenneth Spiro, kenneth.v.spiro.civ@mail.mil, 703-693-3614.

Sincerely,

Jose Gonzalez
Performing the Duties of
Assistant Secretary of Defense (Acquisition)

Enclosure:
As stated

GAO Draft Report Dated December 15, 2017
GAO-18-217 (GAO CODE 101108)

"DEFENSE ACQUISITION WORKFORCE: Opportunities Exist to Improve Practices for
Developing Program Managers"

DEPARTMENT OF DEFENSE COMMENTS
TO THE GAO RECOMMENDATION

RECOMMENDATION 1:
The Secretary of the Air Force should take steps to address areas of civilian and military program
manager retention and selection that do not align extensively with leading practices. This could
include using approaches already used by the other military services or commercial companies.

DoD RESPONSE: DoD concurs with the recommendation. The Department of the Air Force is
in the process of implementing a centralized selection board for civilian program managers
similar to the command boarding process for military personnel in each of the Services.

RECOMMENDATION 2:
The Secretary of the Air Force should make greater use of existing financial mechanisms such as
DAWDF to recognize high performers.

DoD RESPONSE: DoD concurs with the recommendation. The Department of the Air Force
continues to increase its use of existing financial tools such as DAWDF across the program
management community and the acquisition workforce as a whole.

RECOMMENDATION 3:
The Secretary of the Air Force should identify lessons learned by the Army related to the Army's
experience to extend coverage of AcqDemo across the civilian program management workforce.

DoD RESPONSE: DoD concurs with the recommendation. The Department of the Air Force
continues to increase its use of the AcqDemo tool across the program management community
and the acquisition workforce as a whole.

RECOMMENDATION 4:
The Secretary of the Army should take steps to address areas of civilian and military program
manager training, mentoring, and retention that do not align extensively with leading practices.
This could include using approaches already used by the other military services or commercial
companies.

DoD RESPONSE: DoD concurs with the recommendation. The Department of the Army
intends to continue to improve its civilian and military program manager training, mentoring,

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and retention programs across the program management community and the acquisition workforce as a whole.

RECOMMENDATION 5:
The Secretary of the Army should make greater use of existing financial mechanisms such as DAWDF to recognize high performers.

DoD RESPONSE: DoD concurs with the recommendation. The Department of the Army continues to increase its use of existing financial tools such as DAWDF across the program management community and the acquisition workforce as a whole.

RECOMMENDATION 6:
The Secretary of the Navy should take steps to address areas of civilian and military program manager training, mentoring, retention, and selection that do not align extensively with leading practices. This could include using approaches already used by the other military services or commercial companies.

DoD RESPONSE: DoD concurs with the recommendation. The Department of the Navy intends to continue to improve its civilian and military program manager training, mentoring, retention, and selection programs across the program management community and the acquisition workforce as a whole.

RECOMMENDATION 7:
The Secretary of the Navy should make greater use of existing financial mechanisms such as DAWDF to recognize high performers.

DoD RESPONSE: DoD concurs with the recommendation. The Department of the Navy continues to increase its use of existing financial tools such as DAWDF across the program management community and the acquisition workforce as a whole.

RECOMMENDATION 8:
The Secretary of the Navy should identify lessons learned by the Army related to the Army's experience to extend coverage of AcqDemo across the civilian program management workforce.

DoD RESPONSE: DoD concurs with the recommendation. The Department of the Navy has discussed practices with the Army and is working to increase its use of the AcqDemo tool across the program management community and the acquisition workforce as a whole.

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Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

Michael J. Sullivan, (202) 512-4841 or sullivanm@gao.gov.

Staff Acknowledgments

In addition to the contact named above, Cheryl Andrew (Assistant Director), Emily Bond, Robert Bullock, Lorraine Ettaro, Kurt Gurka, Ruben Gzirian, Ashley Rawson, Lucas Scarasso, and Robin Wilson made key contributions to this report.