

STRATEGIC HUMAN CAPITAL MANAGEMENT ANALYSIS AND RECOMMENDATIONS FOR A JOINT PROGRAM EXECUTIVE OFFICE

LOWRY BROOKS



May 2013

**PUBLISHED BY
THE DEFENSE ACQUISITION UNIVERSITY PRESS
PROJECT ADVISER: JAMES OMAN, DIRECTOR
THE SENIOR SERVICE COLLEGE FELLOWSHIP PROGRAM
ABERDEEN PROVING GROUND, MD**

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Abstract

People represent an organization's most important resource. An organization's people determine its ability to execute its mission and define the internal work culture. People supply the organization's most strategic asset, its intellectual capital, by acquiring, developing, and applying specific knowledge, skills, and abilities supporting mission goals and objectives. Managing people at all levels as strategic resources is therefore essential if organizations are to ensure people effectively contribute to mission objectives.

During the past several years, organizations have experienced significant changes in their external and internal operating environment. These changes represent challenges that will have a profound impact on the ability to plan, recruit, develop, and sustain the workforce. Government organizations are not immune to these challenges; in fact, public sector organizations face numerous constraints and challenges in addition to those in the private sector. According to Dr. Jay Liebowitz in the 2004 book, *Addressing the Human Capital Crisis in the Federal Government*, these challenges "... are the result of government downsizing over the past decade, the 'graying' workforce, little infusion of new, young talent into the government, the mobility and changing work patterns of entering workers, lack of interest in working for the federal government due to salary shortfalls in the government vs. those in the private sector, lack of adequate mentoring and workforce planning, and many other reasons" (Liebowitz, 2004). Strategic human capital management has been on the Government Accountability Office's (GAO) High-Risk Areas since 2001. The strategic importance of human capital management is a theme reiterated in numerous studies developed by GAO and the Department of Defense (DoD) among others. It is succinctly captured in GAO Report GAO-07-556T: "Driven by long-term fiscal constraints, changing demographics, evolving governance models, and other factors, the federal government faces new

and more complex challenges in the 21st century, and federal agencies must transform their organizations to meet these challenges. Strategic human capital management must be the centerpiece of any serious change management strategy” (GAO, 2007). These challenges represent just some of the factors impacting the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) that the human capital planning program will face now and in the near future. Exacerbating an already challenging situation are several additional challenges confronting the JPEO-CBD. Analysis of workforce demographics will yield many important questions that will need to be addressed in order for JPEO-CBD to execute strategic human capital management.

This paper presents recommendations relating to a conceptual framework of strategic human capital management based on research and analysis of the primary issues facing the JPEO-CBD. Workforce demographics and attributes of the current workforce supply were analyzed to characterize potential human capital risks to the organization. A strategic human capital management model was presented with specific recommendations related to each of the critical steps involved in its application to the JPEO-CBD. The model involves a systematic process of identifying and analyzing the current workforce, identifying organizational strategic objectives and workforce competencies to achieve them, comparing present workforce competencies to those needed in the future, and then developing plans to transition from the present workforce to the future workforce. Together, strategic human capital management will greatly assist the organization in achieving its vision of an agile, results-oriented, and transformational acquisition enterprise delivering Net-centric, modular, tailorable, and multi-purpose capabilities to the nation.

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The author would like to thank several individuals for their sponsorship, feedback, and knowledge sharing throughout this strategy research project. A heartfelt thank you goes to Patrick Longfield and Darrell McCarthy of the JPEO-CBD Human Capital Management Directorate for their support and tremendous insight in to human capital planning and management. The author would also like to thank James Oman, director of the Defense Acquisition University (DAU) Senior Service College Fellowship (SSCF), Capital and Northeast Region at Aberdeen Proving Ground, MD, for his advice and counsel throughout the development of this paper. Thanks to Gerald Young with the Edgewood Chemical Biological Center (ECBC) for his inquisitive and thought-provoking questions that probed beneath the surface of the data and prompted the analytics to go deeper. Acknowledgement and thanks also are in order for Ms. Leslie Nixon of the Defense Manpower Data Center for her data and analysis concerning DoD civilian employment on military installations. Finally, the RAND Corporation is acknowledged and thanked for permission to adapt its strategic human capital planning model and planning process for the needs of this research paper.

In attempting to identify a worthy strategy research project meeting the requirements of the 2012-2013 DAU SSCF, the author sought a topic that would be beneficial to both his home and matrix organizations and personally provide a leadership growth opportunity. The author believes addressing strategic human capital management challenges has accomplished both objectives. A special note of appreciation is extended to the senior leadership of the JPEO-CBD and ECBC for providing a tremendous growth opportunity and investment in management and leadership development through their support of the DAU SSCF program.

Chapter 1—Introduction

People represent an organization's most important resource. An organization's people determine its ability to execute its mission and define the internal work culture. People, or "human capital," supply the organization's most strategic asset, its intellectual capital, by acquiring, developing, and applying specific knowledge, skills, and abilities supporting mission goals and objectives. Human capital can be described as the "collective experience, knowledge, and expertise of those contributing to an organization's mission" (Liebowitz, 2004). Managing people at all levels as strategic human capital resources is therefore essential if organizations are to ensure people effectively contribute to mission objectives.

During the past several years, organizations have experienced significant change in their external and internal operating environments. These changes represent challenges that will profoundly impact the ability to plan, recruit, develop, and sustain the workforce. Government organizations are not immune to these challenges; in fact, public sector organizations face numerous constraints and challenges in addition to those in the private sector. Some of these challenges include:

- Budgetary uncertainties resulting from the government's ongoing negotiations concerning the "fiscal cliff" sequestration and continuing resolution deliberations that will likely affect the DoD's ability to research, develop, acquire, and sustain materiel systems. The second- and third-order affects to organization's personnel are yet to be determined; however, reductions-in-force, furloughs, hiring freezes, and other drastic measures have been contemplated.
- A protracted downsizing during the 1990s followed by a period of contractor-insourcing; the long-term effects in terms of workforce competencies, contractor

performance of inherently governmental functions, end strength, and capacity are still being determined.

- A retirement-driven talent drain resulting from a large percentage of the DoD acquisition workforce reaching retirement eligibility. An uneven age and experience workforce demographic profile may represent a strategic personnel risk if an insufficient number of workers with the requisite talent and experience are not available as suitable replacements. Certain personal, economic, and policy factors may collude to persuade a large number of personnel to retire. A plan to replace such a large percentage of the workforce following a high attrition rate is essential.
- A mandate to meet the seven broad focus areas of the defense Better Buying Power initiative (BBPi): achieve affordable programs; control costs throughout the product life cycle; offer incentives for productivity and innovation in industry and government; eliminate unproductive processes and bureaucracy; promote effective competition; improve tradecraft in acquisition of services; and improve the professionalism of the total acquisition workforce (Kendall, 2012). Optimally implementing the tenets of BBP requires a high-quality acquisition workforce with wider experience and knowledge infused from more meaningful training and developmental assignments.

These challenges represent just some of the factors impacting the human capital planning programs of DoD acquisition organizations now and in the near future. Exacerbating an already challenging situation are several additional challenges confronting the JPEO-CBD:

- The JPEO-CBD acquisition program portfolio is experiencing a changing mix of medical/nonmedical programs. The JPEO-CBD has changed from a predominantly nonmedical portfolio of programs to a 50 percent mix of medical and nonmedical

acquisition programs. The skills necessary for medical acquisition mission accomplishment are quite different than those traditionally applied to providing a nonmedical materiel solution such as protective equipment. Expertise in Food and Drug Administration (FDA) compliance regulations is but one of these core competencies unique to medical acquisition.

- An accurate determination of the skill sets required for medical program acquisition is needed. The JPEO-CBD currently is attempting to expedite hiring of PhDs, MDs, and microbiologists necessary to accomplish the mission. To date, there have been challenges in recruiting from a limited labor supply pool with workers bringing the requisite experience.
- A large difference in the lead times associated with reaching Milestone B for medical programs. The FDA approval process for a vaccine typically is on the order of 10 years with approval for therapeutics typically much shorter. This leads to challenging workforce dynamics in medical acquisition.
- Lack of program management office (PMO) flexibility. Frequently, PMO staffing structures are relatively stagnant throughout the acquisition process, which neglects the need to optimize resources to meet various skill sets required throughout the phases of the acquisition process.
- The JPEO-CBD has a little more than 200 Table of Distribution and Allowances (TDA) authorizations. However, the workforce executing the mission currently has more than 1,000 members (core TDA, matrix, contractor, and military), with representation from all Services. Since the vast majority of the workforce is matrix employees supporting the JPEO-CBD, the many Human Resource (HR) systems covering matrix employees'

pay, performance evaluation, training, etc., make strategic human capital management extremely difficult.

- The JPEO-CBD is pursuing new Chemical, Biological, Radiological, and Nuclear (CBRN) strategic initiatives with missions such as Radiological and Nuclear Defense, Biosurveillance, Transformational Medical Technologies, Advanced Development and Manufacturing for Medical Countermeasures, Integrated Base Defense, and Global Combating Weapons of Mass Destruction (CWMD) Situational Awareness among others. Workforce skill-set analysis for optimal PMO staffing is essential.
- The JPEO-CBD is seeking to “Identify and implement whole-of-Government materiel solutions to fill capability gaps in the nation’s CBRN medical, nonmedical, and force protection defense” (JPEO-CBD, 2012). This initiative seeks to leverage the JPEO-CBD’s Joint acquisition strengths in application of the mandate to realize efficiencies throughout DoD and the whole of government. JPEO-CBD is attempting to establish a leadership role in these developments by merging similar DoD/interagency/international investment strategies that eliminate duplication of development effort, and championing collaboration and combined procurement. Enhancing workforce skills in negotiation, interagency collaboration, networking, partnership development, stakeholder management, and strategic thinking and analysis will be required to realize success in these endeavors. Currently, these competencies are not stressed within the existing DoD acquisition workforce development models.
- Transformation in the acquisition procedures directed by the Weapons Systems Acquisition Reform Act of 2009, implemented through a revision to DoD Instruction 5000.02. New procedures associated with the Defense Acquisition System are aimed at

introducing more flexibility and allowing for a more tailored process. Acquisition workforce proficiency in these concepts needs to be commensurate with this flexibility.

The aging workforce demographics mentioned above, known as the “bathtub effect” for the shape of the workforce experience curve, yield many important questions that will need to be addressed for JPEO-CBD to execute strategic human capital management. After consultation with JPEO-CBD human resource professionals, the following issues were determined:

- How does the aging workforce demographic affect the JPEO-CBD’s capability to execute its portfolio of programs?
- What opportunities exist concurrently with these challenges?
- Should JPEO-CBD change how it hires?
- Should JPEO-CBD refocus/prioritize hiring workers for development vs. hiring for experience? What is the proper ratio and in what areas?
- Should JPEO-CBD hire term appointees for programs expecting to reach sustainment within 5 years? Should it staff those programs with people close to retirement?
- Should JPEO-CBD hire more contractors in the volatile skill sets and have a core of the normal mix of acquisition career fields?
- How should a PMO reshape its workforce when the program reaches sustainment?

This paper will make recommendations relating to a conceptual framework of strategic human capital management based on research and analysis of the primary issues facing the JPEO-CBD. Strategic human capital management has been on the GAO High Risk Areas list since 2001. The strategic importance of human capital management is a theme reiterated in numerous studies developed by GAO and DoD, among others. It is succinctly captured in GAO Report GAO-07-556T: “Driven by long-term fiscal constraints, changing demographics, evolving governance

models, and other factors, the federal government is facing new and more complex challenges in the 21st century, and federal agencies must transform their organizations to meet these challenges. Strategic human capital management must be the centerpiece of any serious change management strategy” (GAO, 2007).

Background

The JPEO-CBD FY (Fiscal Year) 2013-18 Strategic Plan articulates the mission, vision, and strategic objectives of the program executive office (JPEO-CBD, 2012). The mission of the JPEO-CBD is to “Provide research, development, acquisition fielding and life-cycle support of chemical, biological, radiological and nuclear defense equipment, medical countermeasures, and installation and force protection integrated capabilities supporting the national strategies” (JPEO-CBD, 2012). The vision is “an agile, results-oriented, and transformational acquisition enterprise delivering Net-centric, modular, tailorable, and multipurpose capabilities to the nation” (JPEO-CBD, 2012). Within the Strategic Plan, the organization’s Joint Acquisitions, Processes, Strategic Communications, People, and Infrastructure goals are presented. The attainment of the objectives articulated in the Strategic Plan will depend upon the number, capabilities, certifications, qualifications, and competencies of the people within the organization.

The JPEO-CBD Human Capital Management Directorate (HCMD) provided thoughtful input into the organizational strategic planning process and has developed specific human resource initiatives to help achieve the organizational goals. HCMD initiatives have been ambitiously chosen and support a concerted effort by the directorate to evolve from a traditional, near-term, transactional focused organization to a strategically focused organization. The human capital challenges previously listed are examples of this type of thinking within HCMD and represent the areas of focus for this strategy research project.

Problem Statement

How can JPEO-CBD successfully execute strategic human capital management to sustain a high-performance and agile workforce in an era of new and changing mission sets in a constrained fiscal environment?

Purpose of This Study

This study is designed for practical purposes to meet a need for the initiation of a strategic human capital management plan within the JPEO-CBD.

Significance of This Research

This applied research study adds to the body of empirical data supporting JPEO-CBD's efforts to optimize personnel assets within its Joint Service management structure. The research paper will utilize action research whereby the final analysis will be used to improve the JPEO-CBD human capital planning activities and, at the same time, generate relevant research to add to a general body of knowledge. The results will assist the JPEO-CBD human resource practitioners and other stakeholders in identifying the needs, assessing the development processes, and evaluating the outcomes of the human capital initiatives they define, design, and implement.

Overview of the Research Methodology

The study involves correlational research using a combination of surveys and interviews to obtain data on an independent variable (strategic human capital management practices, processes, and acquisition workforce analyses) and secondary data on the dependent variable (a high-performance and agile workforce in an era of new and changing mission sets during a constrained fiscal environment). Correlational research was selected because the study is looking for a relationship between two variables. Surveys and interviews were selected as an effective method to

obtain data from program offices concerning human capital management practices and their efficacy.

Research Questions

- What knowledge, skills, and abilities are required to execute JPEO-CBD's new and expanding mission sets?
- How can JPEO-CBD strategically acquire, develop, train, and retain the multiskilled workforce required?
- What Human Resource systems and practices should be used to ensure JPEO-CBD is adaptive, innovative, anticipatory, and proactive in aligning individual employee performance with the organizational strategic objectives?

Research Hypothesis

Strategic human capital issues related to the JPEO-CBD can be addressed through:

- Acquisition workforce analysis (today and trends over time).
- Analysis of core, matrix, military, and contractor demographics.
- Analysis of matrix support organization's human capital strategic planning priorities.
- Alignment of JPEO-CBD human capital initiatives with partner organizations' and support of DoD initiatives.
- Establishing a comprehensive, data-driven workforce analysis, and decision-making capability in order to recruit, develop, and retain an agile, mission-ready workforce.

The above analysis will be extremely useful in shaping a mission-focused workforce that is responsive to changing demands.

Objectives and Outcomes

The objective of this study is to make recommendations on how JPEO-CBD can implement a workforce planning process to achieve human capital strategic planning goals and identify the challenges associated with demand forecast, supply projection, gap analysis and strategy development within a truly JPEO. The outcome of this study will be the identification of required tools, processes, and procedures necessary for thorough workforce planning. Many will involve better definition and tracking of the JPEO-CBD acquisition workforce to improve workforce planning and detailed analysis of the current acquisition workforce and historical trends to yield additional insight.

Limitations of the Study

The survey tool was administered to the JPEO-CBD workforce in the April-March 2013 timeframe. This was likely a less-than-optimal time to issue such a survey for one primary reason. In the face of budget uncertainty surrounding sequestration, a projected decline in defense spending, and DoD announcing plans for potential furloughs, it is very likely many individuals thought the survey was a tool used by the organization in planning potential furloughs and reductions. At such a time of high workforce anxiety over the future, the number of survey respondents remained fewer than was hoped for. That being said, a reasonable degree of statistical confidence was obtained that supported conclusions, many of which were an initial attempt at workforce characterization within JPEO-CBD and, as such, will require further analysis.

Validity of the Research

The survey mechanism will need to capture the key attributes of the variables and ensure questions in the survey are asking the right things to measure the variables (content validity). Subsequent analysis will use triangulation from multiple data sources to help ensure evidence of

relationships is consistent from more than one perspective (internal validity). Data collection methodology will ensure the sample is random from the population and the extraneous variables present in the sample also are present to an equivalent degree in the population (external validity).

Reliability of the Responses

Precautions will be considered to ensure the survey is interpreted in a similar manner by all respondents and that the respondents have an equivalent understanding of the variables.

Joint Program Executive Office for Chemical and Biological Defense

The DoD Chemical and Biological Defense Program (CBDP) was established by Congress through the 1994 National Defense Authorization Act (NDAA), Public Law 103-160. That law consolidated all DoD chemical and biological defense efforts into defense-wide funding accounts overseen by a single office within the Office of the Secretary of Defense and established the Department of the Army as the Executive Agent. The CBDP was reorganized to stand up JPEO-CBD on April 22, 2003.

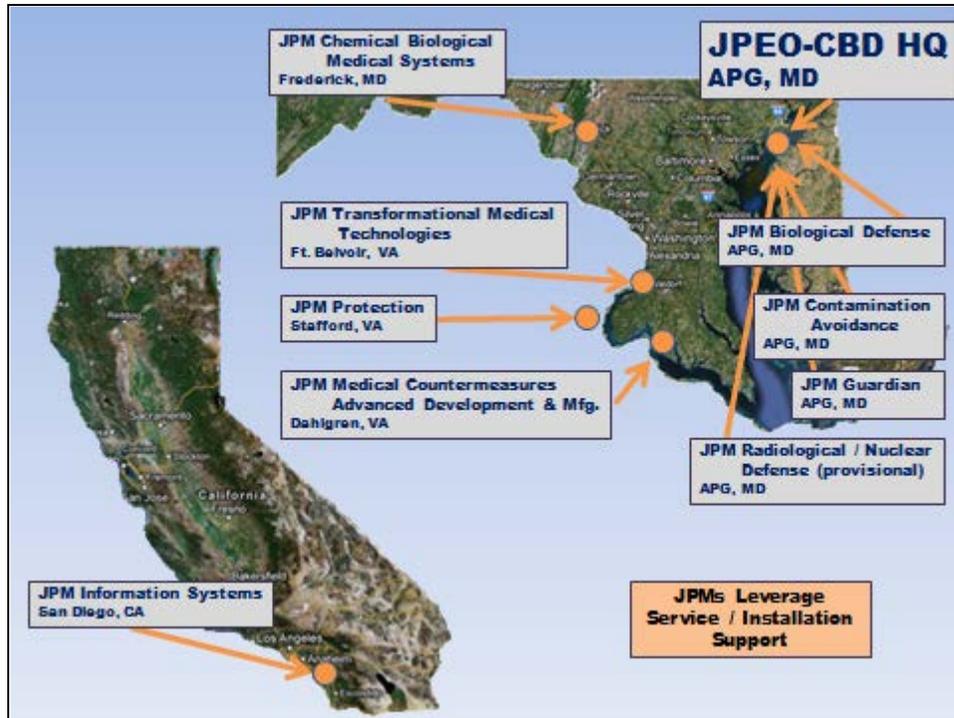


Figure 1. JPEO-CBD Joint Project Manager Locations

The JPEO-CBD is the Joint Services single focal point for research, development, acquisition, fielding, and life-cycle support of chemical and biological defense equipment and medical countermeasures. Within the Joint Program Executive Office, nine Joint Project Managers (JPMs) lead, manage, and direct the acquisition and fielding of chemical and biological detection and reconnaissance systems, individual and collective protection systems, decontamination systems, information management systems, medical devices, drugs and vaccines, and installation and force protection systems. Located mostly in the greater Baltimore/Washington DC metropolitan area, each JPM office leverages talent and expertise from across the Services under a single chain of command, providing the best chemical and biological defense technology, equipment, and medical countermeasures at the right cost, at the right time, and at the right place (JPEO-CBD, 2013).

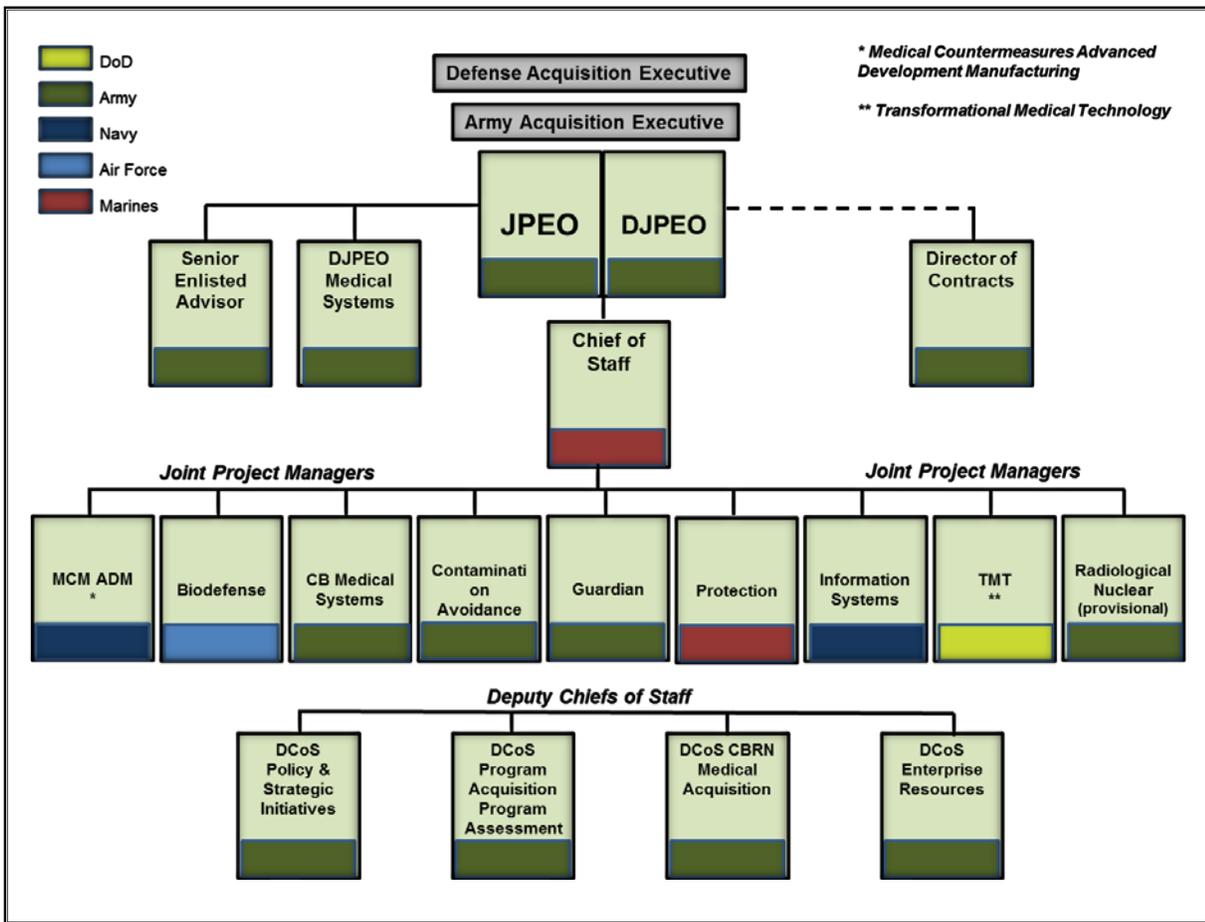


Figure 2. JPEO Organizational Structure

JPEO-CBD is headquartered at Aberdeen Proving Ground, MD; collocated with four supporting JPM offices. Four additional JPM program management offices reside in the greater Baltimore-Washington, DC, metropolitan area. JPM Information Systems is located in San Diego, CA (see Figure 1). Major JPEO-CBD organizational elements are depicted in Figure 2, describing reporting relationships and the truly Joint Service nature of command positions.

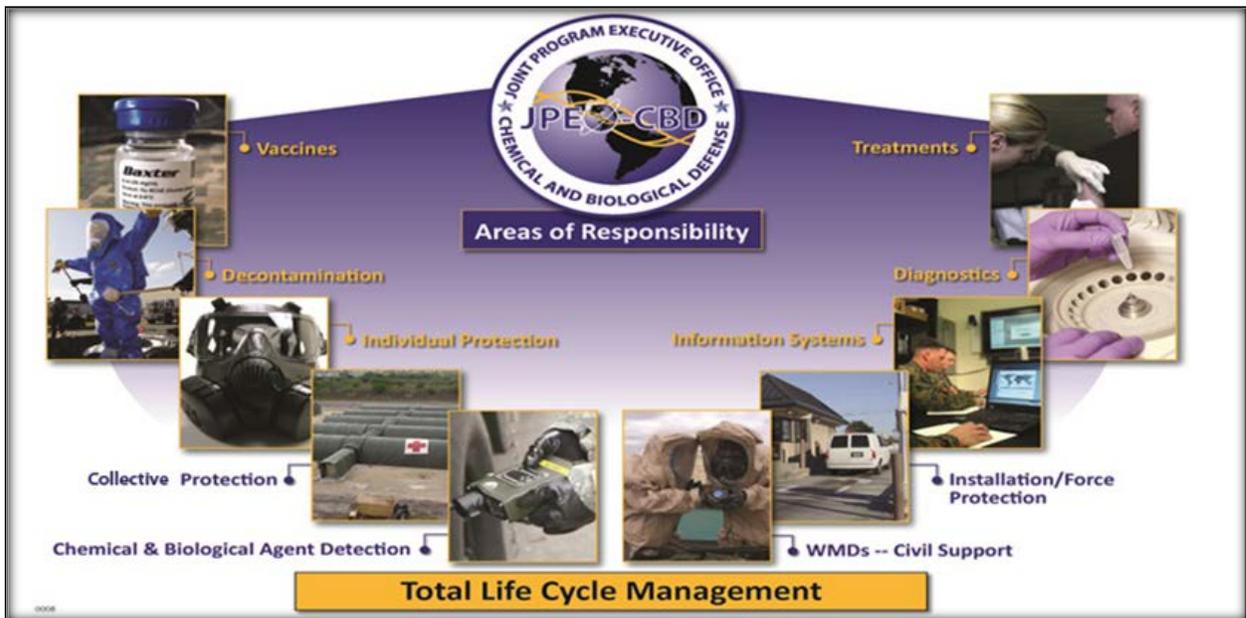


Figure 3. JPEO-CBD Areas of Responsibility

JPEO-CBD Human Capital Management Strategic Goals

According to the JPEO-CBD FY13-18 Strategic Plan, the overarching strategy for the JPEO-CBD in terms of human capital is “Sustain a high performance and agile work force committed to the development of chemical, biological, radiological, and nuclear medical, nonmedical, and force protection on the nation’s behalf.” The strategy was developed to attract, develop, and retain an innovative and professional workforce trained, educated, and experienced to address existing and emerging priorities. The JPEO-CBD engages its workforce in a variety of formal, informal, and experiential learning opportunities designed to enhance both technical and professional qualifications, thus creating value and agility (JPEO-CBD, 2012).

Supporting this overarching strategy is a “strategic thrust” and three strategic objectives. The strategic thrust that supports the overarching strategy is: “Lead DoD’s management and growth of a professional, rapidly realigned, and refocused Joint acquisition workforce. Value and guide a motivated work environment that reflects the diversity of multiple military services,

cultures, disciplines, and cross-generational talent from government and industry. Foster a culture which empowers the workforce and nourishes, recognizes, and rewards talent, effort and results” (JPEO-CBD, 2012).

The human capital strategic goals for the JPEO-CBD are:

1. *Manage Personnel Assets to Align our Capabilities for Current and Future Missions.* Proactively expand workforce capabilities by anticipating the future competency and skill set requirements needed to meet strategic objectives.
2. *Train, and Develop a Versatile and Well Rounded Joint Workforce.* Increase workforce breadth and depth by developing employees who can adapt quickly, think on their feet, competently perform multiple duties, and effectively embrace change.
3. *Leverage the JPEO-CBD Workforce across the Enterprise to Meet Mission Goals.* Gain a holistic view of the total workforce skill sets from Headquarters (HQ), Joint Project Managers (JPMs), matrixed employees, and contractors. Identify the optimal workforce mix and utilize high-performing personnel with the right skill sets for short-term focus groups and response teams (JPEO-CBD, 2012).

As will be demonstrated later in the report, the fundamental tenets of strategic human capital management directly align with, and support, the JPEO-CBD human capital strategic goals.

Chapter 2—Literature Review

Introduction to the Literature Review

The JPEO-CBD acquisition workforce is charged with executing and managing a total obligation authority of approximately \$800 million annually, and this figure has been steadily increasing for several years. The JPEO-CBD also is executing new and expanding mission sets across the interagency environment in addition to realizing a shift toward a greater distribution of investments in CBRN medical countermeasures, therapeutics, and prophylactics. Addressing myriad complex acquisition challenges facing the JPEO-CBD requires a high-quality workforce able to work seamlessly with other agencies, levels of government, and across sectors. However, current budget and long-term fiscal pressures, coupled with a potential wave of employee retirements that could produce gaps in leadership and institutional knowledge, potentially threaten the JPEO-CBD's capacity to effectively address these and many other evolving national CBRN issues. If a skills gap is determined to exist due to attrition or new mission challenges, the JPEO-CBD will need to take specific actions in order to close current and emerging skills gaps before they undermine the organization's ability to support vital missions.

The GAO added strategic human capital management to its High Risk List in 2001, citing the need for agencies such as DoD to address shortages of trained acquisition personnel to oversee and manage projects that have become more expensive and increasingly complex. According to the GAO, the term "human capital" is used because:

“... in contrast with traditional terms, such as ‘personnel’ and ‘human resources,’ it focuses on two principles that are critical in a performance management environment. First, people are assets whose value can be enhanced through investment. As the value of people increases, so does the performance capacity of the organization, and therefore its value to clients and other stakeholders. As with any investment, the goal is to maximize value while managing risk. Second, an organization's human capital approach must be aligned to support its ‘shared vision,’ that is, the mission, vision for the future,

core values, goals, and strategies by which the organization has defined its direction and its expectations for itself and its people. An organization's human capital policies and practices should be designed, implemented, and assessed by the standard of how well they help the organization pursue these intents” (GAO, 2000).

According to the GAO, “Strategic workforce planning is an iterative, systematic process that addresses two critical needs: (1) aligning an organization’s human capital program with its current and emerging mission and programmatic goals and (2) developing long-term strategies for acquiring, developing, and retaining an organization’s workforce to achieve programmatic goals” (GAO, 2013). Addressing the size of the acquisition workforce, job categories, position descriptions, capability gaps, retention/hiring incentives, and promotion/hiring flexibilities are some of the considerations for strategic workforce improvement.

The impetus for this research was the identified confluence of changes within the internal and external JPEO-CBD operating environment. These were primarily identified during the command’s strategic planning process. After consulting JPEO-CBD senior leadership, it was determined addressing the strategic human capital planning challenges of the organization would be a very beneficial project. Human capital is embedded in, and transcends, every strategic objective of the command. As such, it represents a critical path element and key enabler for the command to accomplish its mission and realize its vision. The goal of this research is to conduct an analysis of the present environment and make recommendations aimed at allowing the organization to further translate strategic objectives into actionable and aligned operational and tactical efforts.

The literature review began with research concerning acquisition workforce personnel trends, GAO reports concerning DoD attempts at civilian workforce planning, the efforts of the Under Secretary of Defense for Acquisition, Technology and Logistics (USD[AT&L]) aimed at

shaping the civilian acquisition workforce, matrix organizational structures, and operational processes for strategic workforce planning. Research was then conducted to determine the state of human capital strategic planning and best practices within DoD, other government agencies, and industry. The criteria for selecting the research was currency (best practices), applicability to strategic human capital management (government civilian employees), and relevance (defense acquisition).

Government Accountability Office

The GAO has studied and analyzed human capital management efforts within the U.S. Government and DoD for years and issued numerous reports. A keyword search of “strategic human capital management,” on the GAO’s publications website, subsequently narrowed down to “DoD,” yielded 134 publications. In a March 2000 report titled, “Human Capital: Strategic Approach Should Guide DoD Civilian Workforce Management,” GAO reported on the effects of more than a decade of civilian workforce downsizing in DoD (GAO, 2000). The report highlighted the lack of attention to identifying and maintaining a balanced basic level of skills needed to maintain in-house capabilities and recommended DoD adopt a strategic framework for managing civilian employees. In 2001, GAO identified *Strategic Human Capital Management* of the federal workforce as a government wide “high-risk” area because federal agencies have not consistently integrated human capital planning and management into their overall strategic approach to organizational performance and mission accomplishment (GAO, 2001). A follow-on report in 2003 identified key principles of strategic workforce planning and provided examples of these principles in use throughout selected agencies (GAO, 2003). Other reports have focused primarily on competency gap analysis, a critical component of strategic human capital management. In this regard, GAO has assessed DoD as having improved upon its original civilian strategic workforce

plan, a requirement the department has had since 2006 (GAO, 2012). DoD currently is conducting a competency gap analysis for mission-critical occupations it has identified.

After a protracted period of acquisition workforce downsizing in the 1990s and subsequent build-up during the late 2000s, reductions in the Acquisition workforce are once again being considered as a result of the long-term fiscal challenges facing the nation. DoD was criticized previously for not focusing on reshaping the acquisition workforce in a strategic manner. If reductions in the civilian acquisition workforce again are implemented without a clear focus, the work completed to date concerning competency gap analysis will be for naught and likely will result in a return to the skills imbalance of the 1990s. GAO concluded, “Eleven consecutive years of downsizing produced serious imbalances in the skills and experience of the highly talented and specialized civilian acquisition workforce, putting DoD on the verge of a retirement-driven talent drain” (GAO, 2012).

Strategic Workforce Planning Legislation

According to the NDAA FY2010, Section 1108, “The Secretary of Defense shall submit to the congressional defense committees on an annual basis a strategic workforce plan to shape and improve the civilian employee workforce of the Department of Defense” (NDAA, 2010). The Act requires the Office of the Under Secretary of Defense for Personnel and Readiness (OUSD(P&R)) and USD(AT&L) annually:

- Conduct an assessment of the critical skills and competencies that will be needed in the acquisition workforce in the future.
- Assess the appropriate mix of military, civilian, and contractor personnel capabilities.

- Assess the critical skills and competencies of the existing civilian employee workforce of the Department and projected trends in that workforce based on expected losses due to retirement and other attrition.
- Assess gaps in the existing or projected civilian employee workforce.
- A plan of action for developing and reshaping the civilian employee workforce to address gaps, including recruitment and retention goals; development, training, deployment, compensation, and motivation of the civilian employee workforce; and incentives necessary to attract or retain any civilian personnel possessing the skills and competencies identified (NDAA, 2010). The provisions of the FY2010 NDAA augmented the initial requirement for strategic human capital planning, which occurred in the FY2006 NDAA.

DoD Civilian Human Capital Strategic Plan

The 2010 Quadrennial Defense Review placed a priority on the need for increased leadership in human capital management, improvement in capabilities within its civilian-led activities, and acquisition personnel who have the skills and training necessary to perform their jobs (DoD, 2010). In response to the legislative requirements imposed by Congress, DoD initially publicized its *DoD Strategic Human Capital Plan* in 2006. GAO reviewed the initial plan and found it failed to adequately address many critical components, such as competency gap analysis and monitoring of progress, as specified in the NDAA (DoD Civilian Human Capital Strategic Plan, February 2008). DoD's latest strategic workforce plan was released in March 2012 covering the years 2010-2018. In its September 2012 assessment, GAO found DoD had made progress in addressing some of the reporting requirements but had not addressed others. DoD has identified 22 mission-critical occupations and, to varying degrees, assessed the existing and future critical skills

and competencies for these occupations. DoD has not yet addressed the results of any gap analysis for these occupations. DoD has not yet addressed the appropriate mix of military, civilian, and contractor workforces or provided an assessment of the capabilities of each of these workforces. Finally, DoD has begun to implement some results-oriented performance metrics tied to the strategic plan. However, it is unclear how the proposed measures will address statutory reporting requirements (GAO, 2012).

Recruitment Challenges

Large-scale downsizing of the acquisition workforce occurred in the 1990s. Hiring and pay freezes, attrition through retirement, and reductions in force were used primarily to downsize to an end-state target driven by funding targets. Once again these mechanisms are being discussed or have been initially enacted. The Secretary of the Army and Chief of Staff of the Army recently issued a policy memorandum enacting an Army wide civilian hiring freeze in addition to cutting or curtailing many other activities (McHugh & Odierno, 2013). Recruitment is necessary to level the peaks and lulls in the current age/experience curve of the workforce; however, this comes at a time when the civilian workforce faces even more potentially severe challenges, often blazoned in news headlines, making it harder to portray civil service as a rewarding career. In his 2012 paper, “The DoD Civilian Acquisition Workforce: An Undervalued Resource,” Matthew Mayes writes:

The past year has seen a sharp increase in proposed congressional legislation aimed squarely and exclusively at federal civilian employees to pay for the first year of DoD budget sequestration and the federal payroll tax holiday. Between January 2011 and February 2012, Congress introduced at least 19 separate proposals designed to reduce the civilian workforce through across the board cuts (*U.S. Congress, House, 2011*), impose mandatory periods of unpaid leave (*U.S. Congress, House, 2011*), extend pay freezes through 2013 (*U.S. Congress, House, 2012*) or 2014 (*U.S. Congress, Senate, 2012*), prohibit within-grade step increases (*U.S. Congress, House, 2011*), and significantly reduce retirement benefits (*U.S. Congress, House, 2012*). Moreover, the President’s National Commission on Fiscal Responsibility recommended reduction in the federal civilian workforce by 200,000 personnel (*U.S. Executive Office of the President, 2010*). Additionally, in 2010, the

Defense Business Board recommended the Secretary of Defense reduce the civilian workforce by 15 percent and initiate an immediate hiring freeze to reduce costs and increase efficiencies (*Punaro, 2010*).

“These actions, if pursued, will likely produce unintended consequences such as reduced efficiency resulting from increased workloads, a demoralized federal workforce, and increased difficulty in recruiting and retaining talented and experienced civilian workers” (Mayes, 2012). Needless to say, the implementation of statutory reduction measures increasingly will complicate the ability to conduct strategic human capital planning. It is incumbent upon organizations, however, to do just that in the face of these challenges.

Retirement Eligibility of the Acquisition Workforce

According to the Federal Acquisition Institute, as of December 2011, the average age of the federal acquisition workforce ranged from 47 years to 51.7 years, with at least 36 percent of the workforce becoming eligible to retire over the next 10 years (GAO, 2012). DoD reports that approximately 30 percent of its workforce and 60 percent of its civilian leaders are eligible to retire by March 31, 2015 (GAO, 2012). This phenomenon has been reported and studied for well more than a decade. In 2000, DoD formed an Acquisition 2005 Task Force to study the long-term development of the acquisition workforce. The task force’s final report brought to light the serious imbalance 11 consecutive years of downsizing had on the demographic makeup of the acquisition workforce. According to the study, “The drought in hiring, the inadequacy of training in some agencies, and the increased demand for contracting have together created a situation in which there is not, in the pipeline, a sufficient cadre of mature acquisition professionals who have the skills and training to assume responsibility for procurement in today’s demanding environment” (USD[AT&L], 2000). This imbalance has been described as the “bathtub effect,” which describes the distribution of workforce experience with the supply of midcareer personnel inadequate to

replace those nearing retirement or with insufficient experience to conduct essential mentorship of new hires. A graphical representation of the bathtub effect is depicted in Figure 4 (DoD, 2010).

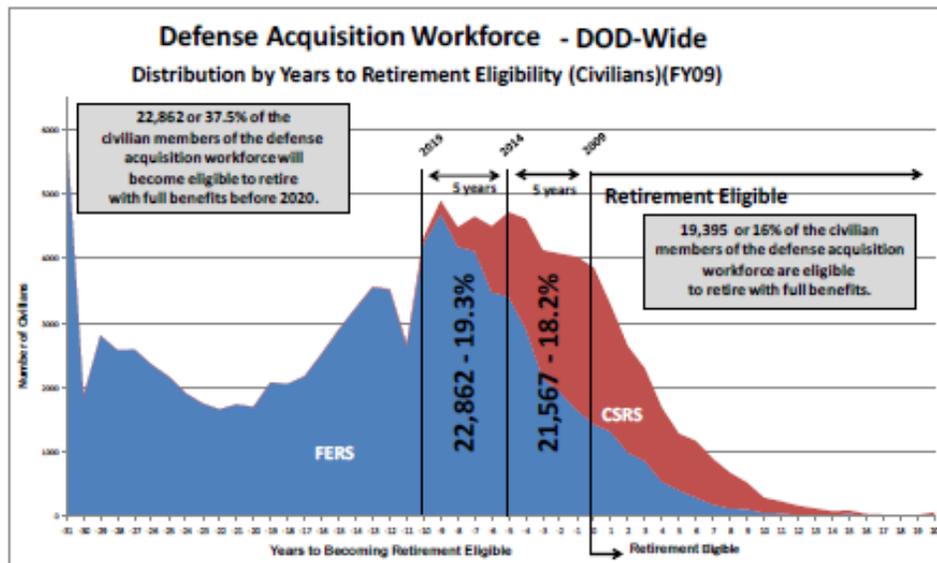


Figure 2-13. Defense Acquisition Workforce FY2009 Distribution by Retirement System and Years of Retirement Eligibility (Civilians)²⁵

Figure 4. The Bathtub Effect

Reliance on Contractors

When there is an imbalance between the size, skills, and experience of the acquisition workforces, organizations augmenting the workforce with contractor personnel to address short-term problems can exacerbate the situation in the long term. GAO determined the primary reasons organizations turn to contractor personnel to fill acquisition positions (GAO, 2009):

- Shortage of civilian personnel with a particular expertise.
- Staffing limits on civilian personnel.
- Particular expertise sought is generally not hired by the government.
- Ease or speed of bringing on contractor personnel.
- Short-term requirement.
- Funding unavailable for civilian personnel.

- Cost of contractor personnel less than civilian personnel.

Many sources have identified the problems and challenges associated with an over-reliance on contractor personnel. In “A Call to Revitalize the Engines of Government,” former Under Secretary of Defense for Personnel and Readiness (USD(P&R)) Bernard Rostker, writing for the RAND Corporation, concluded a preferential culture for contracting, faulty rationales supporting a blended workforce, inconsistent practices defining inherently governmental work, among other factors, coupled with pending retirements will deprive the government of needed talent (Rostker, 2008). Section 324 of Public Law 110-181, the NDAA FY2008, put forth “Guidelines on In-Sourcing New and Contracted Out Functions” to begin addressing the situation. However, it remains to be seen what affect it would have on organization’s hiring practices and workforce balances (NDAA, 2008). Additional reports by GAO, RAND Corporation, and the DoD Inspector General point to the difficulty of properly accounting for the number of contractors, the roles they fill, and the experience they bring supporting the acquisition process.

Human Capital Management Model and Tool Development

Several agencies have initiated efforts to develop tools and models to help organizations effectively use their people. The GAO has published a model of strategic human capital management consisting of eight critical success factors and discussion pointers describing the necessary actions and culture change required in order to manage human capital strategically. The Office of Management and Budget (OMB) has developed standards for success supporting an organization’s human capital management self-assessment. The Office of Personnel Management (OPM) released a human capital balanced scorecard to assist organizations employing the OMB tool. The Rand Corp., conducting research for the USD(AT&L) and the USD(P&R), identified a process and methodology designed to help organizations formulate and execute analytic-based

workforce planning (Emmerichs, Marcum, & Robbert, *An Operational Process for Workforce Planning*, 2004). A companion report, *An Executive Perspective on Workforce Planning*, documents the critical role an organization's senior leadership play in the workforce planning activity (Emmerichs, Marcum, & Robbert, *An Executive Perspective on Workforce Planning*, 2004). The National Aeronautics and Space Administration (NASA) expanded on the OPM model and developed a workforce planning desk guide in order to plan against more than one future profile and to define total workforce capabilities supporting the use of government vs. non-government workforce analyses (Lowe, 2008). In addition, the NASA guide provides guidance and procedures for performing strategic, programmatic, and operational workforce planning.

Literature Review Conclusion

The JPEO-CBD is executing new and expanding mission sets across the interagency environment in addition to realizing a shift toward a greater distribution of investments in CBRN medical countermeasures, therapeutics, and prophylactics. Addressing the myriad complex acquisition challenges facing the JPEO-CBD requires a high-quality workforce able to work seamlessly with other agencies, levels of government, and across sectors. Human capital is embedded in, and transcends, every strategic objective of the command. As such, it represents a critical path element and key enabler for the command to accomplish its mission and realize its vision.

Numerous reports have identified the lack of human capital strategic planning within DoD and the government as a high-risk area, citing an imbalance in the level of skills needed to maintain in-house capabilities. Several reports recommended DoD adopt a strategic framework for managing civilian employees.

Recently enacted legislation requires DoD to improve the acquisition workforce in terms of competencies, depth, breadth, mix (civilian, military, and contractor), and reshaping the workforce to account for talent losses due to attrition involving training and development. DoD has begun to address many of the tenets of strategic human capital management with the release of its most recent strategic workforce plan; however, much work remains to be done. Substantial progress has been made utilizing the Defense Acquisition Workforce Development Fund (DAWDF). The DAWDF has been used to strengthen the acquisition workforce capacity and capability. This effort comes not a moment too soon as a significant portion of the acquisition workforce will be eligible to retire in the near term without a suitable cadre of individuals to replace them. The impending loss of talent due to retirement is clearly portrayed in Figure 4 and Figure 5.

Organizations have typically addressed short-term human capital management concerns through hiring contractors in substantial numbers. While potentially meeting near-term objectives, on over-reliance on contractor support can exacerbate the gap which currently exists, depriving the DoD of needed talent to perform inherently governmental functions.

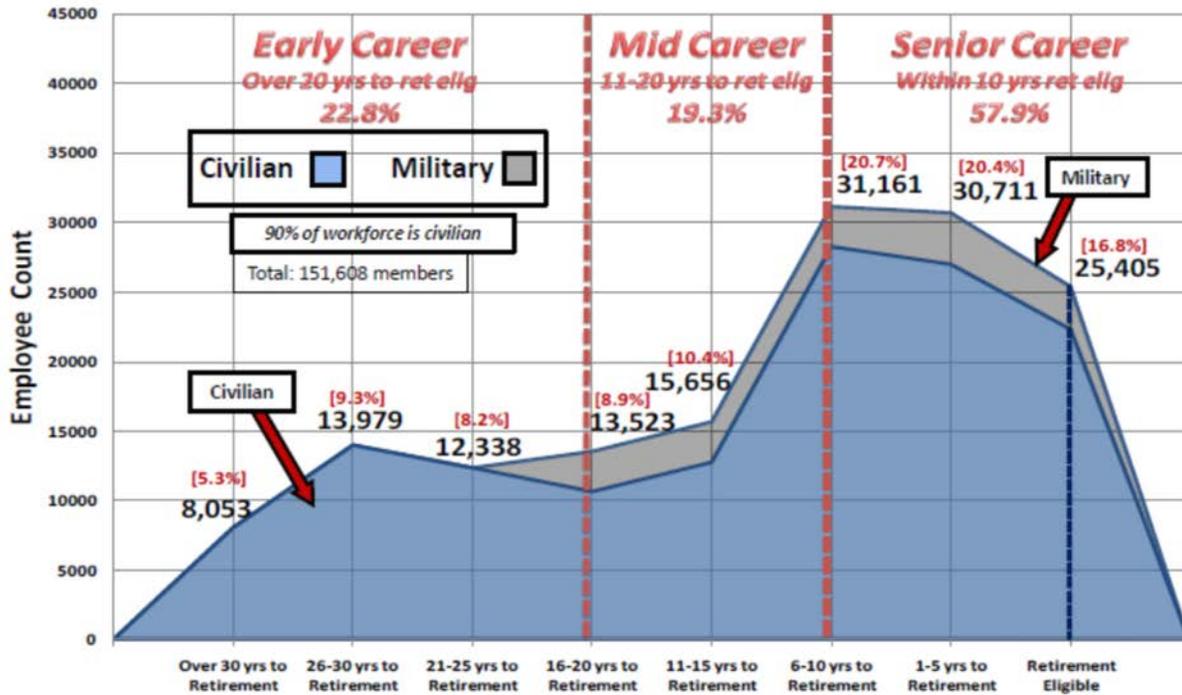
Several agencies have initiated efforts to develop tools and models to help organizations effectively use their people. Utilizing a suite of human capital strategic management tools within the framework of a model will allow organizations to manage human capital strategically.

A strategic view of human capital management is necessary to address these challenges. Human capital strategic planning and management should be integrated into the overall strategic approach an organization pursues supporting mission accomplishment. This competency contrasts with the more operational activities traditionally associated with human resources management.



Significant Loss of Experience on the Horizon Overall Defense Acquisition Workforce

Overall DAW (Mil & Civ) Retirement Eligibility Distribution - FY12Q1 (12-31-11)



Project Source: OUSD (AT&L) HCI

Data Source: AT&L Data Mart (FY12-Q1 - as of 12-31-2011)

March 5, 2012

Figure 5. Defense Acquisition Workforce Retirement Distribution

Chapter 3—Research Methodology

Research Hypothesis

Strategic human capital issues related to the JPEO-CBD can be addressed through:

- Acquisition workforce analysis (today and trends over time)
- Analysis of core, matrix, military, and contractor demographics
- Analysis of matrix organization’s human capital strategic planning priorities
- Alignment of JPEO-CBD human capital initiatives with partner organizations and DoD initiatives
- Establishing a comprehensive, data-driven workforce analysis and decision-making capability to recruit, develop, and retain an agile, mission-ready workforce

The above analysis will be useful toward establishing an analytic based, data-driven system for application shaping a mission-focused workforce that is responsive to changing demands.

Research Process

The first step in the research process involved defining the problem and stating research topic. Several iterations and a subsequent refinement of the problem statement occurred following consultation with JPEO-CBD HR professionals. Next, a literature review was conducted focusing on the topic area. The research questions were refined after conducting an initial literature review. Definition of the hypotheses and variables for study followed. Further consultation with JPEO-CBD personnel yielded decisions concerning the study population, sampling frame, and sampling technique. Next, the research strategy and methodology were finalized. The primary measuring instrument, a workforce survey, was completed utilizing the SurveyShield.com instrument, and trial runs were conducted. JPEO-CBD senior leadership sponsored, and HCMD requested,

workforce participation in the survey. Collected data were analyzed and used to support the findings and conclusions.

Data Collection

Data collection involved extensive literature searches, employment of a survey instrument, selected interviews of JPEO-CBD HCMD personnel, and data provided by HCMD. SurveyShield.com was used to collect survey responses. JPEO-CBD has an account with SurveyShield.com and uses the services as the primary vehicle for soliciting and analyzing data from the workforce supporting a range of efforts such as command improvement initiatives and climate surveys.

Collection of raw data was aggregated to describe the current JPEO-CBD workforce (strength, TDA, contractor, military, civilian, experience, competencies, training, years of service, etc.). In summary, data pertaining to the JPEO-CBD workforce will be collected via survey, interviews, and data supplied by the JPEO-CBD HCMD.

Ethical Issues

This research project will ensure no breaches of confidential personnel data are reported. Data provided by the JPEO-CBD will be safeguarded and presented in a manner to ensure that trust is not misplaced. Research procedures will be reasonable, nonexploitive, carefully considered, and fairly administered. Sample selection will be appropriate for the study, representative of the population to benefit from the study, and sufficient in number. Research techniques will be employed to avoid the criticism of bias from those who may not agree with the outcome of the research. While the author's acquisition experience working for the JPEO-CBD is relevant and insight will be utilized, the analysis will present alternatives and explanations to ensure the research is portrayed without determining outcomes based on preconceived notions. To

avoid data bias, any and all data retrieved from valid sources, whether they agree or disagree with the topic proposed, will be utilized.

Assessments

Assessments of the JPEO-CBD workforce:

- Analysis of the workforce population by age, years of experience, years to retirement eligibility, Acquisition certifications, duty location, supporting organizational element, college degrees, and position certification requirements.
- Analysis of the workforce career field distribution (contractor, military, and civilian [matrix and TDA]).
- Analysis of the various pay/compensation systems within JPEO-CBD. Discussion of impediments to workforce motivation and reward for individual and organizational performance under disparate systems.
- Analysis of the differences between TDA and matrix personnel in above demographics.
- Analysis of the primary skill sets of the workforce approaching retirement.
- Analysis of the “bathtub” effect concerning the years-to-retirement profile.
- Analysis of changes in JPEO workforce composition size since inception.
- Computation of average age and average years of service.
- Computation of the number of retirement-eligible employees in 5 years and the percentage of TDA and matrix.
- Assessment of the functions contractors are performing, comparing contractor to civilian in count and percentage.
- Assessment of growth in JPEO mission (programs, budget, etc.) vs. growth in TDA and total employees over the last decade.

- Analysis of historical data reflecting time-to-fill for personnel vacancies.
- Identification of job series at high risk for retirement or attrition. Identification of “critical skills” for which there are concerns about future losses and the ability to replace those who leave.

Chapter 4—Findings

JPEO-CBD's personnel needs are expected to change in order to meet the demands of the new mission sets identified in the strategic plan, portfolio shift toward medical countermeasures, and an increasing need for the development of materiel solutions to meet interagency and whole-of-government requirements. The JPEO-CBD Strategic Plan outlines the need to manage the workforce more strategically (JPEO-CBD, 2012). The JPEO-CBD has taken initial steps, expanding the human resources mission from a traditional transactional based function to a more comprehensive human capital management directorate. The office currently uses analytics in an attempt to capture and monitor the composition, occupations, educational experience, and acquisition proficiencies of the workforce. In addition, deliberate actions are taken to identify career-broadening experiences and additional training for the workforce. These actions, however, are primarily focused on the core TDA workforce and a more comprehensive system needs to capture the same attributes for the matrix workforce providing a capability to evaluate and guide the development of JPEO-CBD human capital as a whole.

The JPEO-CBD TDA was analyzed as a starting point for determining the basic demographics of the existing workforce. Data were obtained from the U.S. Army Force Management Support Agency representing the latest approved JPEO-CBD TDA, Oct. 3, 2012. Table 1 represents the authorized and required end-strength distribution by category.

Table 1. JPEO-CBD TDA

| Identity | Category | Required Strength | Authorized Strength |
|------------------------|--|--------------------------|----------------------------|
| Military | | | |
| | Officer | 2 | 1 |
| | Enlisted | 2 | 2 |
| | Total Military | 4 | 3 |
| Civilians | | | |
| | ES | 1 | 1 |
| | NH | 206 | 205 |
| | NK | 3 | 3 |
| | Total Civilians | 210 | 209 |
| Contractor | | | |
| | Contractor Manpower Equivalents | 316 | 316 |
| | Total TDA | 530 | 528 |
| Other Personnel | | | |
| | Matrix Personnel | 438 | 0 |
| | Active ARNG | 1 | 1 |
| | Planning Position | 25 | 25 |
| | Non-Army Position | 52 | 48 |
| | Active USAR | 1 | 1 |
| | Total Other Personnel | 517 | 75 |
| | Grand Total | 1047 | 603 |

Legend: ARNG—Army Reserve/National Guard
 ES— Senior Executive Service
 NH— Business and Technical Management Professional
 NK—Administrative Support
 USAR—United States Army Reserve

Notes: Matrix Personnel represent non-JPEO-CBD TDA Department of the Army personnel.
 Planning Position represents non-JPEO-CBD TDA Army officer program management positions.
 Non-Army Position represents non-JPEO-CBD TDA USAF, USMC, and USN positions.

As seen in Figure 6, the JPEO-CBD relies heavily on both contractors and matrix government civilians to augment its workforce. The next analysis sought to determine what functions these groups perform on behalf of the JPEO-CBD. The TDA contains position codes for each billet record corresponding to official position classifications. Position codes for each record were analyzed for both matrix and contractor personnel. The OPM *Handbook of Occupational Groups and Families*, May 2009, was used to identify and aggregate position codes within the TDA (OPM, 2009).

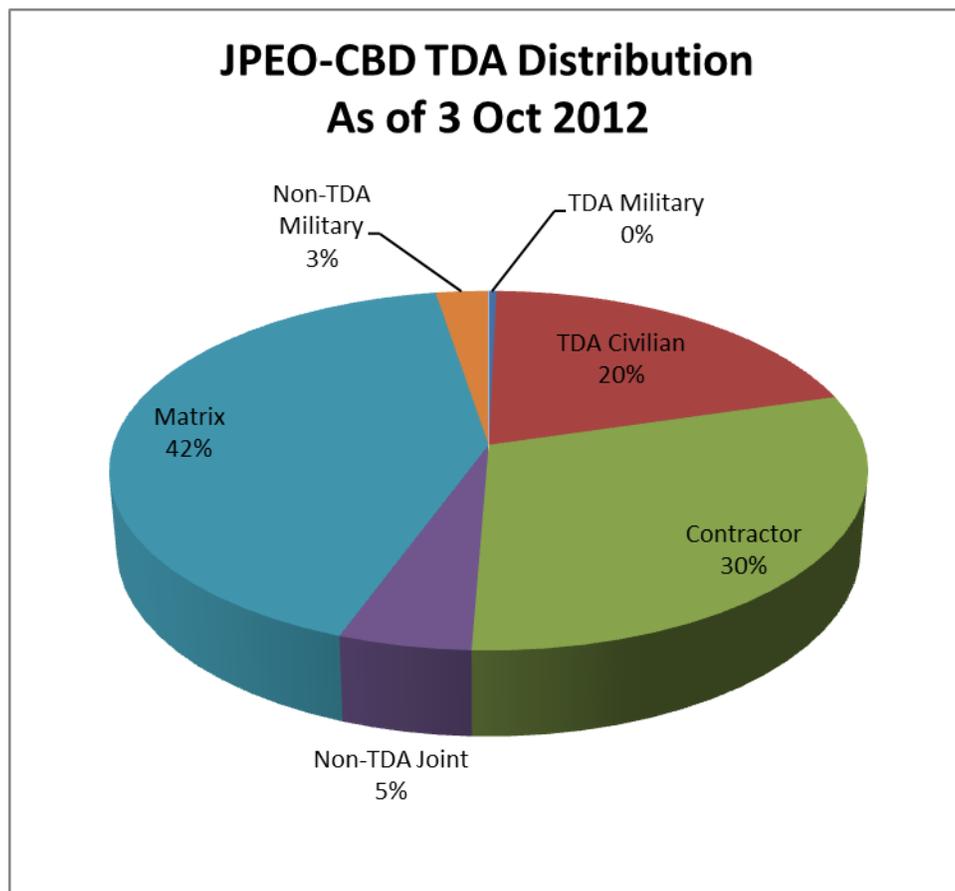


Figure 6. JPEO-CBD TDA Distribution

Table 2. TDA, Matrix, and CME Distribution

| Position | TDA Count | TDA Percent | Matrix Count | Matrix Percent | CME Count | CME Percent | Total Count |
|-----------------------|-----------|-------------|--------------|----------------|-----------|-------------|-------------|
| Security | 6 | 2.9% | 1 | 0.2% | 0 | 0.0% | 7 |
| Acquisition & Ops | 33 | 15.8% | 11 | 2.6% | 20 | 6.3% | 64 |
| Administrative | 5 | 23.8% | 16 | 3.8% | 91 | 28.8% | 112 |
| Program Mgmt. | 21 | 10.0% | 9 | 2.1% | 4 | 1.3% | 34 |
| Program Analysis | 34 | 16.3% | 21 | 4.9% | 24 | 7.6% | 79 |
| Logistics | 47 | 22.5% | 34 | 8.0% | 0 | 0.0% | 81 |
| Financial & Budget | 33 | 15.8% | 14 | 3.3% | 14 | 4.4% | 61 |
| Engineering & Science | 26 | 12.4% | 254 | 59.6% | 100 | 31.6% | 380 |
| Contracting | 3 | 1.4% | 10 | 2.3% | 0 | 0.0% | 13 |
| Quality Assurance | 1 | 0.5% | 0 | 0.0% | 6 | 1.9% | 7 |
| Physical Science | 0 | 0.0% | 34 | 8.0% | 15 | 4.7% | 49 |
| Medical Science | 0 | 0.0% | 2 | 0.5% | 21 | 6.6% | 23 |
| Technical | 0 | 0.0% | 20 | 4.7% | 21 | 6.6% | 41 |
| Sub Totals | 209 | | 426 | | 316 | | 951 |
| Total | 951 | | | | | | |

Core TDA, matrix civilian, and contractor.

According to Table 2, personnel in the engineering and science field account for 40 percent (380 out of 951) of the total civilian (TDA, matrix), contractor population within JPEO-CBD. Engineering and science also are the career fields most often performed through augmentation of the workforce with matrix or contractor personnel. In addition, other technical fields such as physical science, medical science, and technical account for 12 percent (123 out of 951) of the total civilian (TDA, matrix) and contractor populations. Highly technical work in CBRN defense is performed through contract mechanisms and matrix agreements with multi-Service, multi-organizational research, development, and engineering centers by design. Table 2 clearly shows the strategic relationship JPEO-CBD has with technical support organizations.

Figure 7 and Figure 8 graphically display the role matrix civilians and contractor support personnel play in the JPEO-CBD workforce.

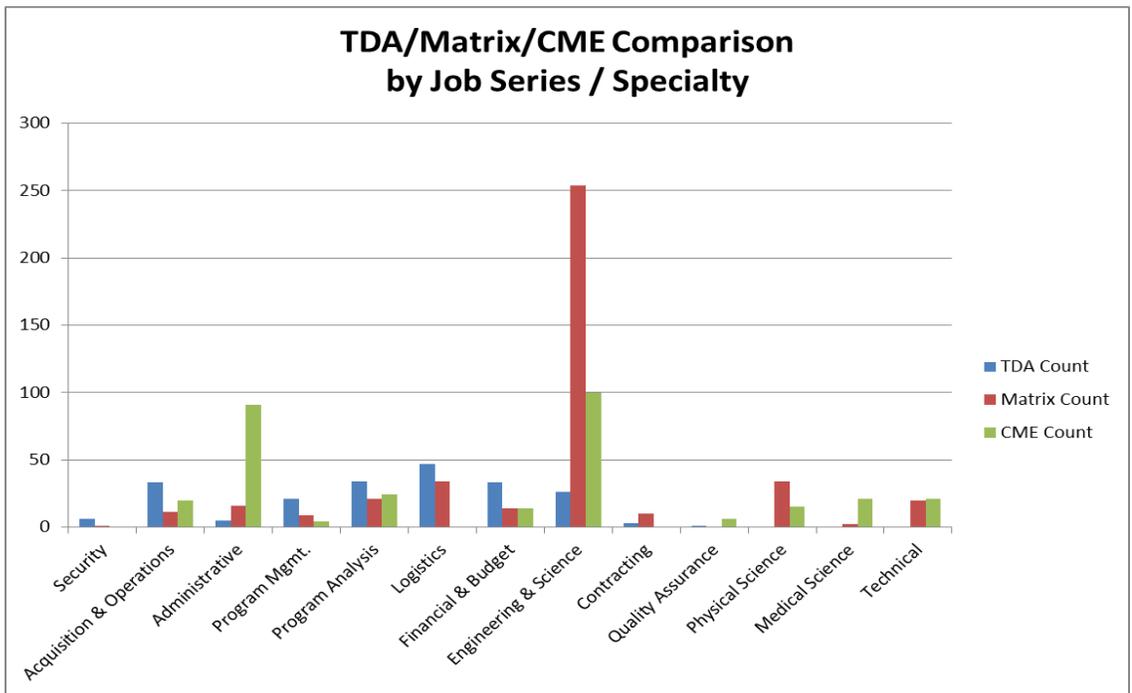


Figure 7. Workforce Comparison by Job Series

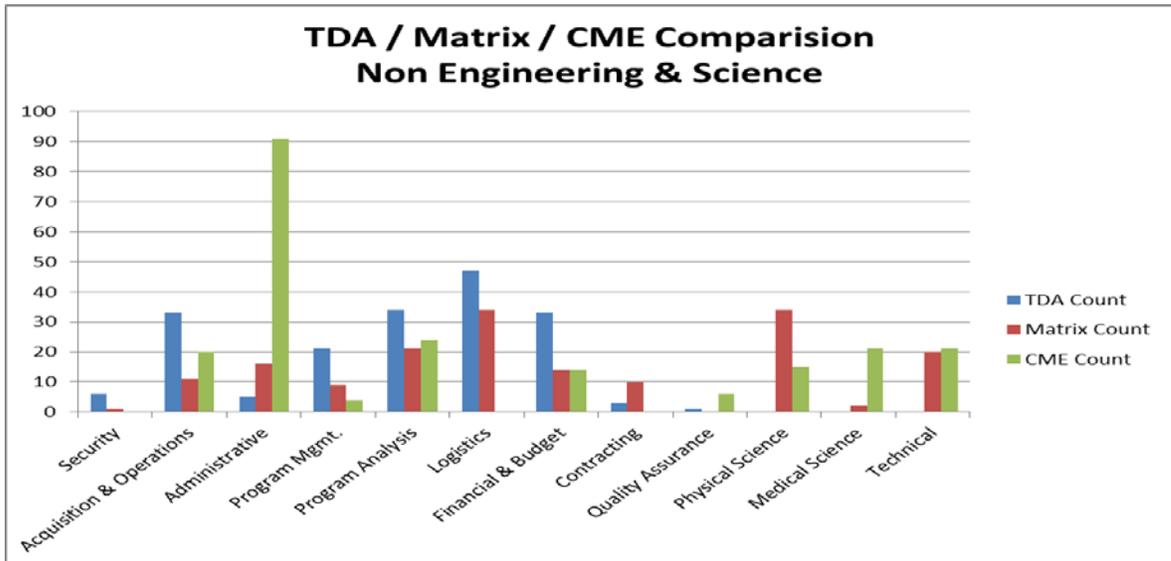


Figure 8. Workforce Comparison by Job Series (Non-Engineering and Non-Science)

The JPEO-CBD is first and foremost, an advanced development organization, responsible for the entire life cycle of CBRN medical, non-medical, and force protection materiel and support to the Joint warfighter. To maximize overall success, JPEO-CBD must rapidly transform technologies into effective, suitable, and sustainable CBRN defense capabilities and place them in the hands of its customers. To be recognized as an organization delivering the best technology and equipment to Joint warfighters and the nation, JPEO-CBD must practice acquisition excellence. This includes embracing innovation, reducing life-cycle cost, achieving best-value for the government while being good stewards of taxpayer money, making acquisition more efficient and responsive while managing risk and anticipating change, integrating technology, and adopting continuous process improvement.

Within JPEO-CBD, the overwhelming majority of engineering and science positions are supplied via matrix employees and contractor support personnel. To leverage the expertise, skills, and unique qualifications the technical staff provides the JPEO-CBD, this workforce must be actively managed. This technical workforce is made up of individuals primarily in occupational series beginning with 4, 6, 8, 13, and 15. The 4xx series encompasses biological sciences, 6xx represents medical professionals, 8xx covers engineering occupations, 13xx includes physical sciences, and 15xx includes mathematics, statistics, and computer sciences. This segment of the JPEO-CBD workforce is responsible for a wide range of AT&L functions critical to the development of CBRN materiel solutions.

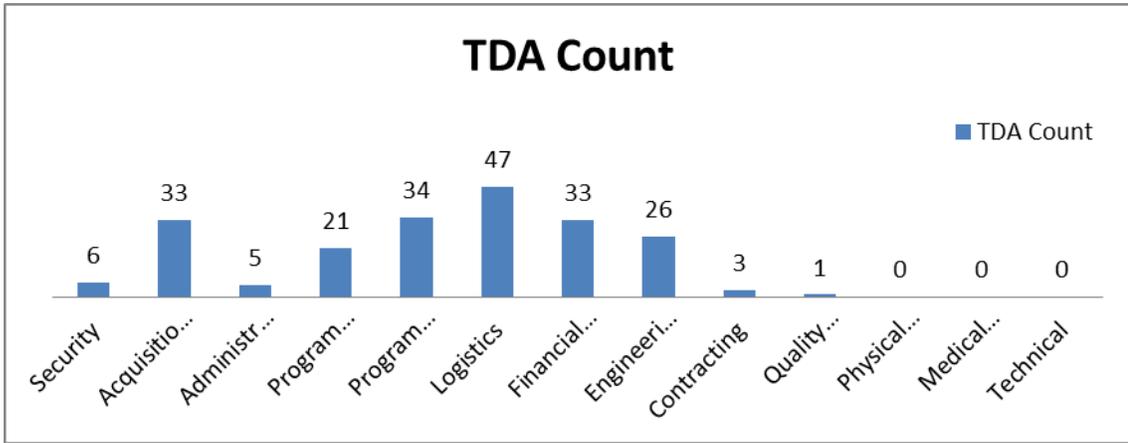


Figure 11. Job Series Distribution by TDA Count

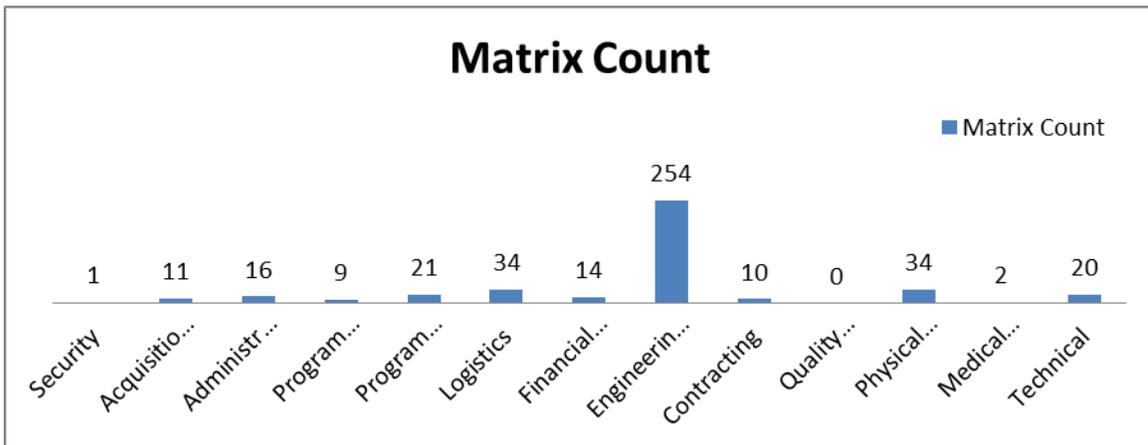


Figure 11. Job Series Distribution by Matrix Count

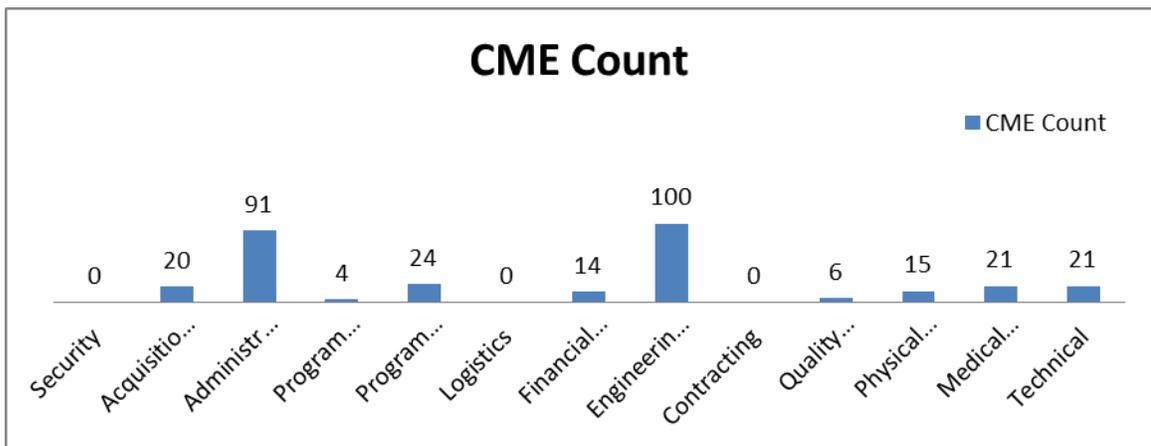


Figure 11. Job Series Distribution by CME Count

Figure 11, Figure 11, and Figure 11 show the graphical distribution of JPEO-CBD TDA, matrix civilian, and contractor support personnel by job series. These figures again show the distribution of engineering and technical disciplines outside the JPEO-CBD core TDA workforce.

Survey Population and Sample Size

There were 117 responses collected from the survey deployed to the JPEO-CBD workforce. Data from Table 1 and analysis of the TDA indicate the total JPEO-CBD population under consideration to be 210 TDA civilians, 316 contractors, 438 matrix personnel, and 54 military.

| | | Response Total | Response Percent |
|--------------------------|---|---------------------------|-----------------------------|
| JPEO-CBD TDA civilian |  | 39 | 33% |
| Matrix civilian |  | 44 | 38% |
| JPEO-CBD TDA military |  | 4 | 3% |
| Matrix military | | 0 | 0% |
| Contractor |  | 30 | 26% |
| Other, please specify | | 0 | 0% |
| Total Respondents | | | 117 |

Figure 12. Civilian, Military, & Contractor Responses

The confidence interval for the survey responses is 8.53 at 95 percent. This interval is sufficient for an initial analysis of responses and trends in subsequent survey responses. The confidence interval for the total civilian population, from which many of the subsequent observations will be discussed, is 10.05.

Table 3. Confidence Intervals

| Category | Sample Size | Population | Confidence Interval @ 95% Confidence |
|------------------|-------------|------------|--------------------------------------|
| TDA Civilian | 39 | 210 | 14.19 |
| Matrix Civilian | 44 | 438 | 14.03 |
| Military | 4 | 54 | 47.59 |
| Contractor | 30 | 316 | 17.05 |
| Total Civilian | 83 | 648 | 10.05 |
| Total Population | 117 | 1018 | 8.53 |

Table 4 indicates the number of responses from matrix civilians. The preponderance of responses was from ECBC individuals. This is not surprising considering ECBC supplies 48 percent of JPEO-CBD's matrix civilian manpower (see Table 5).

Table 4. Survey Responses from Matrix Civilians

| Organization | Response Total | Response Percent |
|-----------------------|----------------|------------------|
| ECBC | 31 | 70% |
| NAVSEA | 7 | 16% |
| USMC Systems Command | 1 | 2% |
| USAF Materiel Command | 1 | 2% |
| Natick Soldier RDEC | 4 | 9% |
| | | |
| Total | 44 | 100% |

Table 5. Projected FY13 ECBC Support to JPEO-CBD

| Org. Element | Total TDA Authorizations | Total Matrix Required | ECBC Matrix Provided | ECBC Matrix Percent |
|-----------------------------|--------------------------|-----------------------|----------------------|---------------------|
| JPEO-CBD HQ | 49 | 0 | 5 | Over strength |
| JPM-Contamination Avoidance | 22 | 153 | 152 | 99.3% |
| JPM-Biodefense | 10 | 73 | 7 | 9.6% |
| JPM-Protection | 19 | 157 | 26 | 16.6% |
| JPM-Guardian | 57 | 24 | 9 | 37.5% % |
| JPM-CBMS | 49 | 8 | 1 | 12.5% |
| JPM-MCM-ADM | Unknown | Unknown | 0 | 0% |
| JPM-TMT | 3 | 0 | 0 | 0% |
| JPM-Information Systems | 0 | 6 | 0 | 0% |
| JPM-Rad/Nuc (provisional) | Unknown | Unknown | 2 | Unknown |
| TOTALS | 209 | 421 | 202 | 48.0% |

This chart is civilians only, no contractors, and no military
 Sources: TDA Authorizations and Matrix Req.—USAFMSA
 Matrix Provided— JPEO/ECBC MOU, September 2012

Survey responses by JPEO-CBD organizational element are shown in Table 6. These values are in proportion to the total end strength of each organizational element to the JPEO-CBD organization as a whole.

Table 6. Survey Responses by Organizational Element

| JPEO-HQ | JPM BD | JPM CBMS | JPM CA | JPM Guardian | JPM IS | JPM MCM ADM | JPM Protection | JPM Rad Nuc | JPM TMTI | No Response |
|---------|--------|----------|--------|--------------|--------|-------------|----------------|-------------|----------|-------------|
| 31 | 3 | 11 | 22 | 12 | 4 | 2 | 20 | 2 | 8 | 2 |

CBMS— Chemical, Biological Medical Systems
 TMTI—Transformational Medical Technology Initiative
 MCM ADM—Medical Countermeasures Advanced Development & Manufacturing
 CA—Contamination Avoidance
 IS—Information Systems
 BD—Biodefense
 Rad Nuc—Radiological & Nuclear

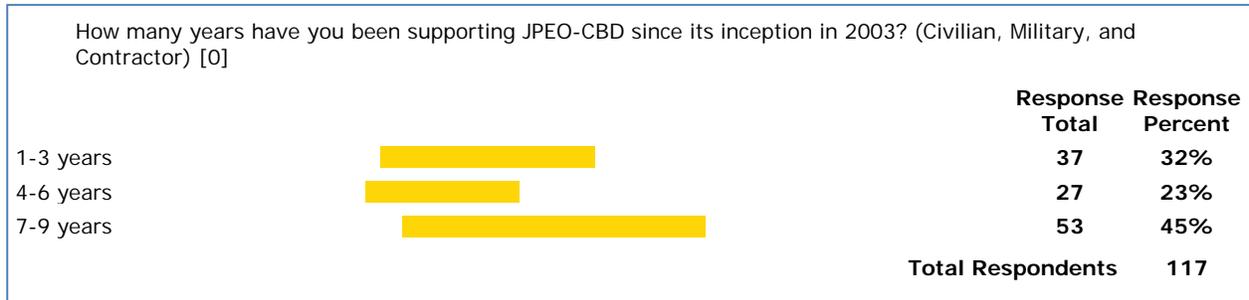


Figure 13. Survey Responses, Years of JPEO-CBD Service

Figure 13 indicates the survey respondent’s years of experience supporting the JPEO-CBD since its inception in 2003. The responses indicate a healthy distribution of experience across the survey respondents.

Table 7. Distribution of Survey Responses by Organizational Element

| Organizational Element | Response Total | Response Percent | Total End Strength | Total End Strength as a Percent of JPEO-CBD |
|---|----------------|------------------|--------------------|---|
| JPEO-CBD Headquarters | 31 | 27.4% | 98 | 9.4% |
| JPM Guardian | 12 | 10.3% | 189 | 18.1% |
| JPM Contamination Avoidance | 22 | 18.8% | 214 | 20.4% |
| JPM Protection | 20 | 17.9% | 275 | 26.3% |
| JPM Information Systems | 4 | 3.4% | 23 | 2.2% |
| JPM Transformational Medical Technology | 8 | 6.8% | 21 | 2.0% |
| JPM Medical Countermeasures Advanced Development & Mfg. | 2 | 1.7% | 21 | 2.0% |
| JPM Chemical Biological Medical Systems | 11 | 9.4% | 90 | 8.6% |
| JPM Biological Defense | 3 | 2.6% | 109 | 10.4% |
| JPM Radiological & Nuclear Defense (provisional) | 2 | 1.7% | 7 | 0.6% |
| Totals | 115 | 100.0% | 1047 | 100.0% |

Table 7 indicates the distribution of survey responses by JPEO-CBD organizational element. The responses correlate well with the distribution of end strength across the command indicating a sufficient cross-section of the command was surveyed and survey responses represent the command demographics proportionally.

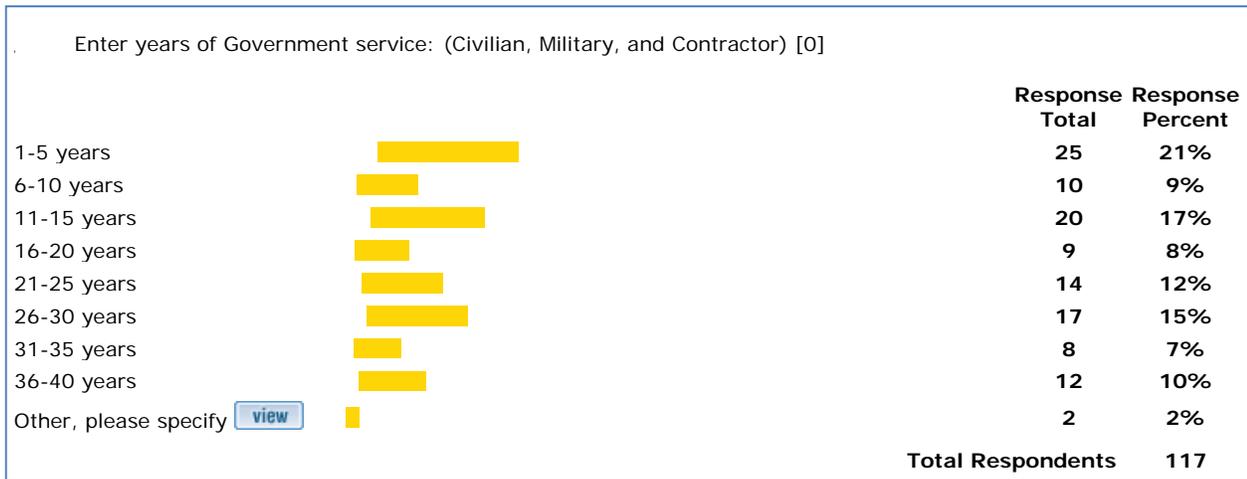


Figure 14. Years of Service, Survey Responses

Figure 14 indicates the years of government service for the survey respondents. The distribution is fairly even across the spectrum surveyed. However, it is interesting to note that twenty percent of the respondents had more than 30 years of service.

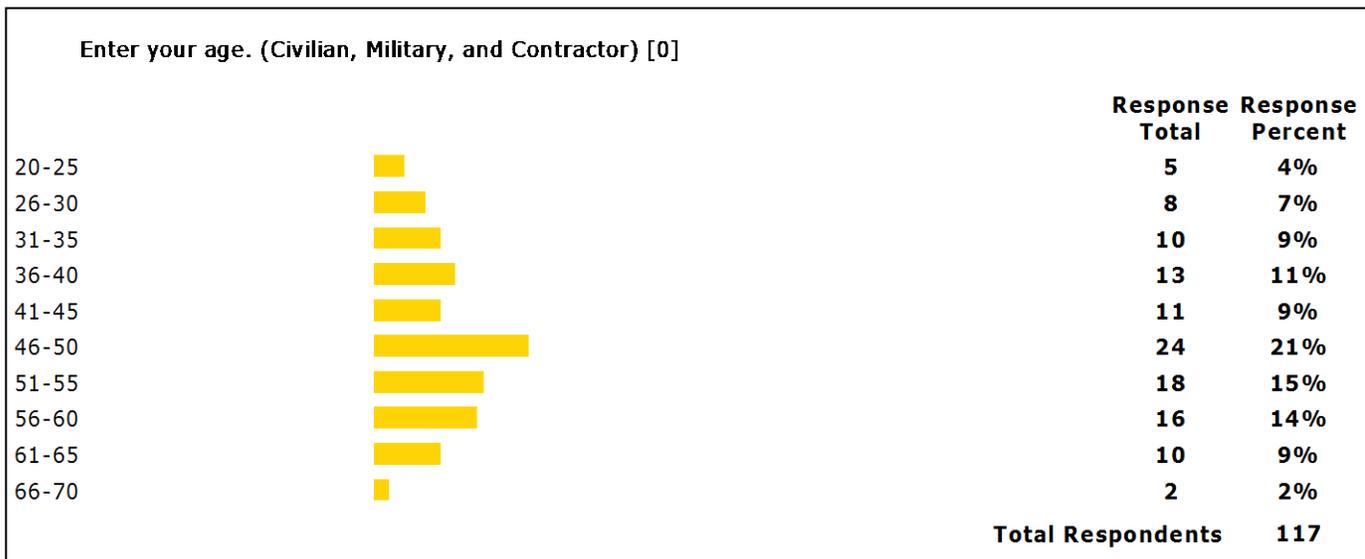


Figure 15. Age Distribution of Survey Responses

Figure 15 indicates the age distribution of the survey respondents. Twenty-eight percent (25 percent) of the respondents were over 55 years old.

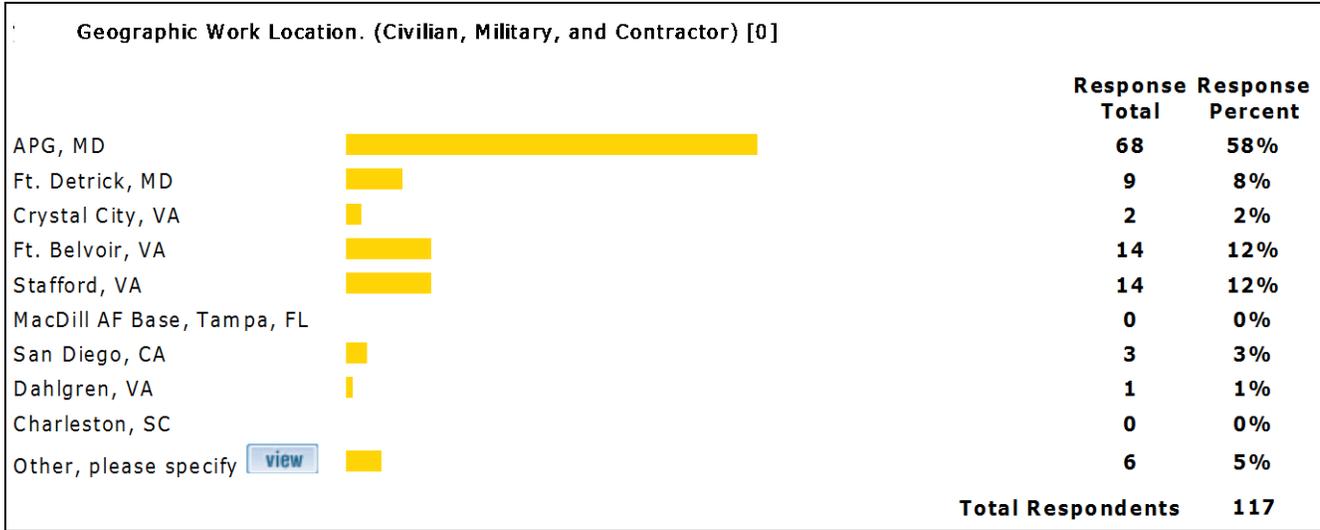


Figure 16. Geographic Work Location, Survey Responses

Figure 16 indicates the geographic work location of survey respondents indicating the concentration of employees at Aberdeen Proving Ground, MD, and the greater Maryland, Washington DC, Virginia metropolitan area.

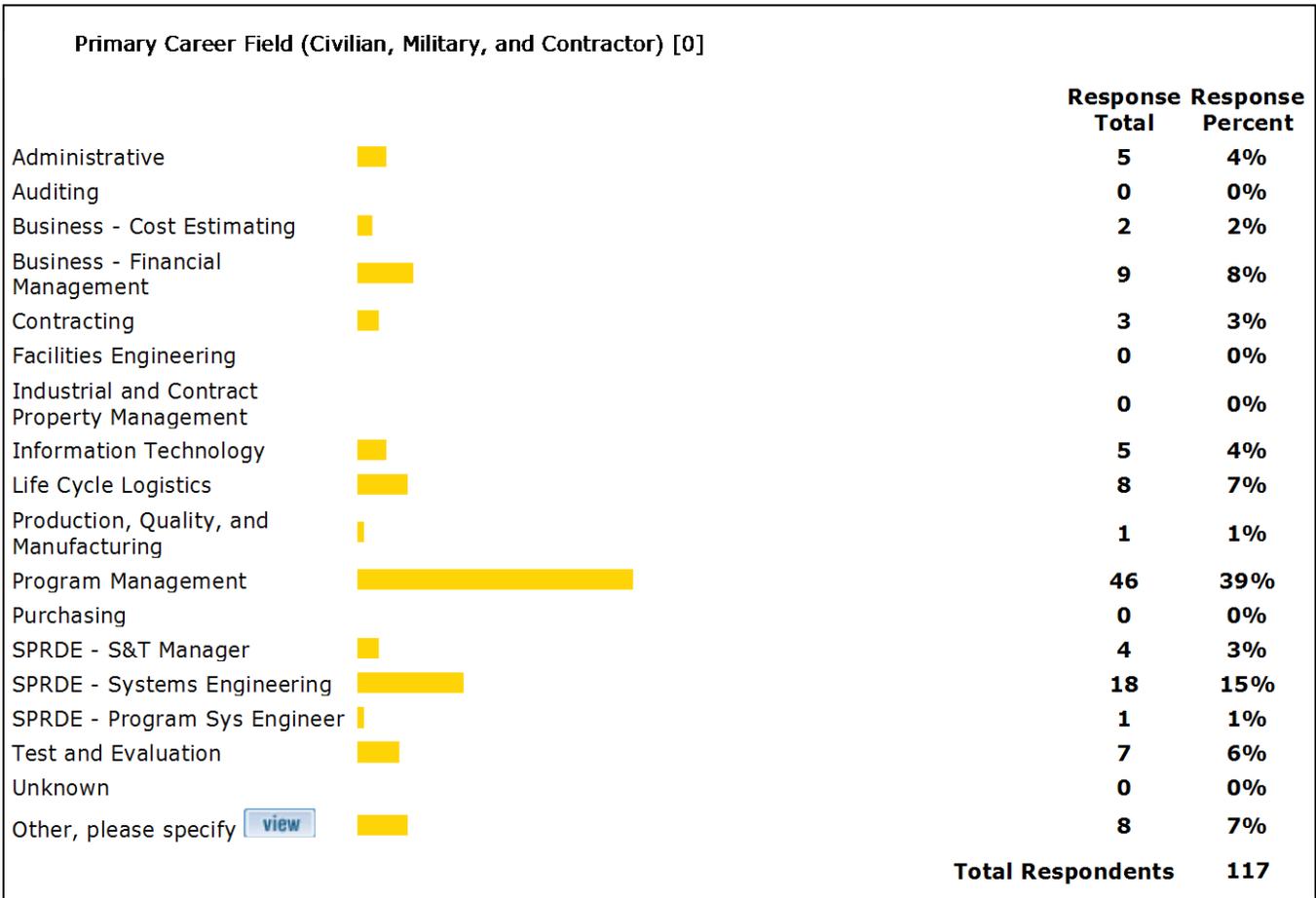


Figure 17. Career Field Distribution, Survey Responses

Figure 17 indicates the career field distribution of the survey respondents with the largest responses attributed to the Program Management and Systems Engineering fields.

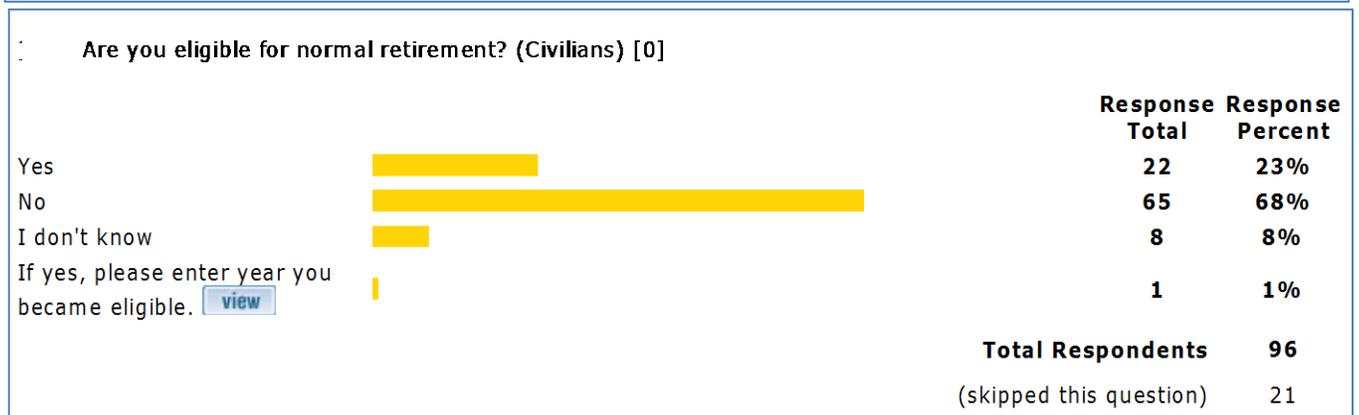
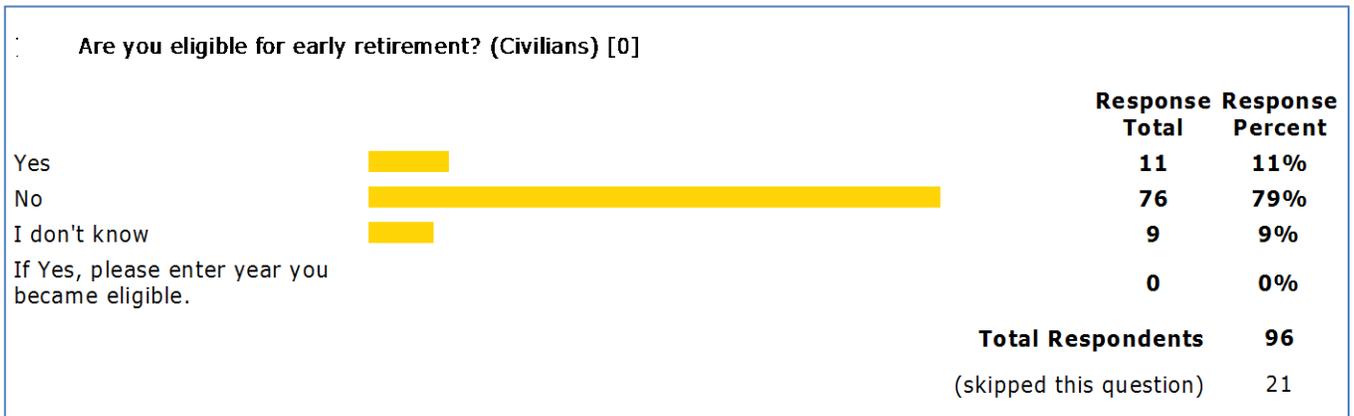


Figure 18. Retirement Survey Responses

Figure 18 indicates the responses for questions concerning retirement eligibility. A total of thirty-four percent of the respondents indicated they are eligible for either early retirement or normal retirement.

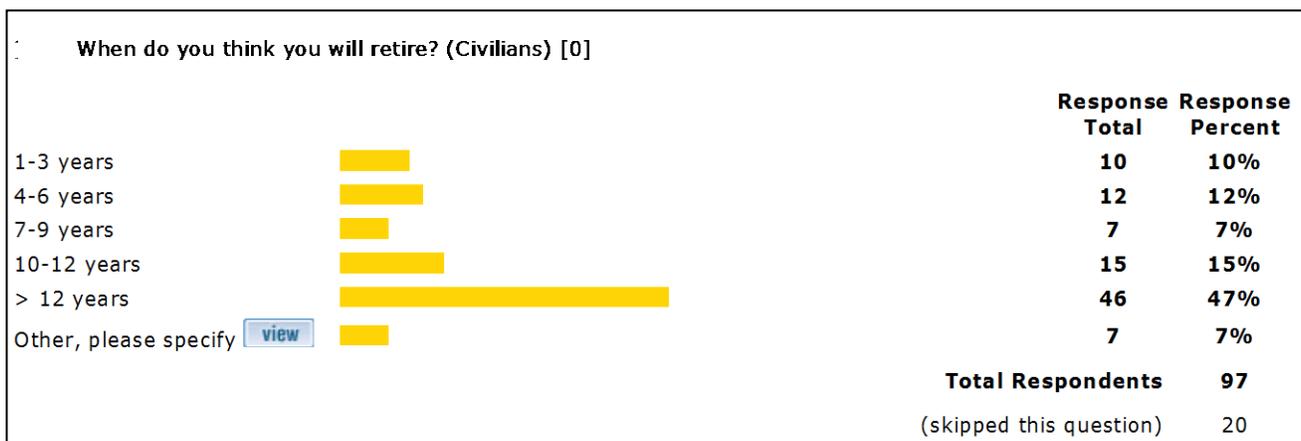


Figure 19. Retirement Predictions, Survey Responses

Figure 19 indicates the survey respondent’s prediction of their retirement. Of the responses received, 22 percent indicated they are likely to retire within the next 6 years. To augment the survey responses, HCMD provided retirement projections of the JPEO-CBD workforce based on a metadata analysis from multiple personnel data sources representing the various component organizations of matrixed individuals in addition to core TDA personnel. This data, depicted in Table 8, support the same conclusion that can be drawn from Figure 19. According to the HCMD data, a total of 218 JPEO-CBD employees are eligible to retire in just 10 years. Unless steps are taken in the near future, the organization could be challenged by severe personnel losses in a very short time. One key issue is having sufficient time to identify and train personnel to take on important management roles when 116 people leave within the next 5 years.

Table 8. Retirement Projections Provided by HCMD

| This Year (Early) | This Year (Regular) | In 5 Yrs. | In 10 Yrs. | In 15 Yrs. | In 20 Yrs. | In 25 Yrs. | In 30 Yrs. | In 35 Yrs. |
|--------------------------|----------------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 26 | 22 | 68 | 102 | 131 | 157 | 185 | 201 | 203 |

A total of thirty three survey respondents indicated they are eligible for early or regular retirement. Of those, 10 are ECBC matrix civilians, 1 is a USMC matrix civilian, 16 are JPEO-CBD TDA civilians, and 2 are contractors. They average 6 years supporting JPEO-CBD since its inception in 2003 and average 26 years of civilian service. Several had less 20 years of civilian experience; many of these had likely prior military service, which the survey did not adequately capture. The average age of the respondents is 53 with 5 respondents indicating their age to be under 40. If these 5 respondents did not accurately interpret the survey question and are discounted, the resulting average age is 57. Fourteen of the respondents indicated greater than 56

years in age. Most of the respondents indicating retirement eligibility were senior acquisition professionals as indicated in Table 9.

Table 9. Grade/Pay Band of Retirement Eligible Respondents

| GS 12 | GS 13 | GS 14 | GS 15 | NH III | NH IV | DB 4 | O-6 | O-5 |
|-------|-------|-------|-------|--------|-------|------|-----|-----|
| 3 | 6 | 1 | 1 | 4 | 8 | 2 | 2 | 1 |

Twenty of the respondents work at Aberdeen Proving Ground, 2 in Fort Detrick, MD, 2 in Stafford, VA, and 4 at Fort Belvoir, VA. Most of the retirement-eligible respondents worked in the SPRDE and PM career fields as indicated in Table 10.

Table 10. Career Fields of Retirement Eligible Respondents

| SPRDE | PM | Contracting | Medical | Logistics | IT | Financial Mgmt. | Workforce Development | Intelligence |
|-------|----|-------------|---------|-----------|----|-----------------|-----------------------|--------------|
| 7 | 10 | 1 | 1 | 2 | 2 | 4 | 1 | 1 |

All respondents were certified in their career field and most had multiple Defense Acquisition Workforce Improvement Act (DAWIA) Level III certifications. The respondents are highly educated with 12 bachelor’s degrees, 14 master’s degrees, and 1 associate’s degree. In addition, there was 1 PhD, and 1 MD.

Most of the respondents indicated they were planning retirement within the next 9 years as indicated in Table 11.

Table 11. Retirement Predictions of Retirement Eligible Respondents

| 1-3 Years | 4-6 Years | 7-9 Years | 9-12 Years | >12 Years | Unknown |
|-----------|-----------|-----------|------------|-----------|---------|
| 12 | 8 | 3 | 0 | 5 | 1 |

Clearly the survey responses and HCMD data indicate a significant amount of senior talent is preparing to leave the organization in the near future.

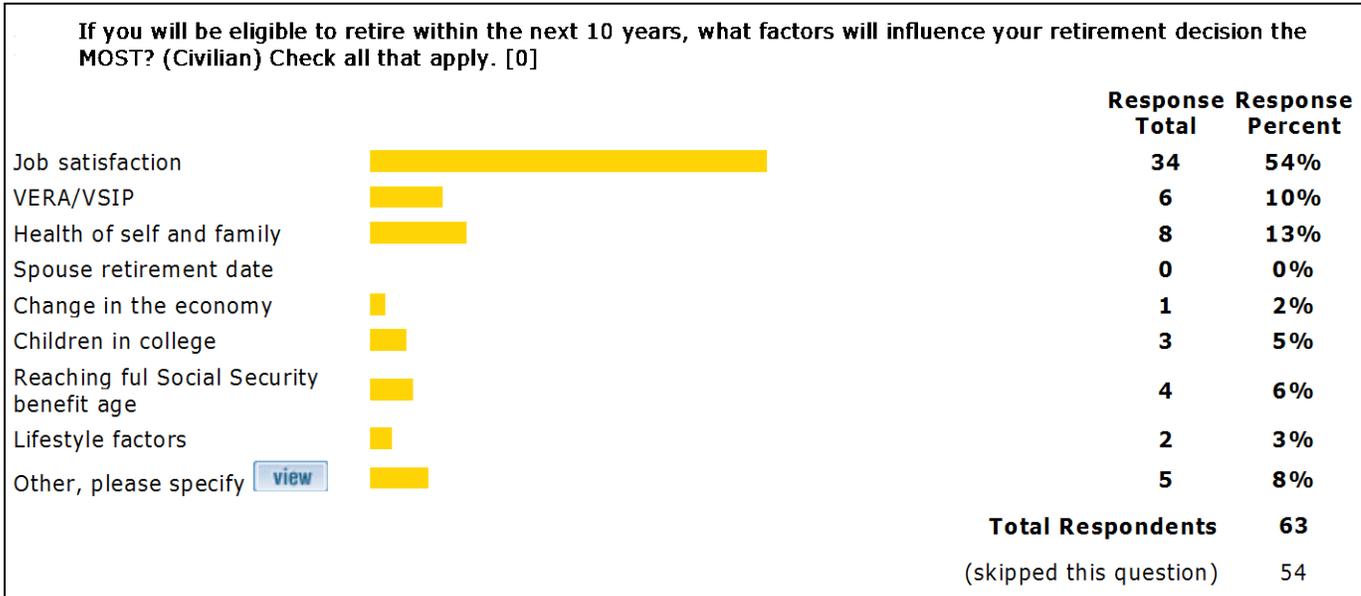


Figure 20. Factors Affecting Retirement Decisions

Figure 20 indicates job satisfaction is the primary factor influencing retirement decisions for JPEO-CBD employees.

Strategic Workforce Planning Process

The focus on strategic workforce planning is “... to ensure the organization has the right number of human resources, with the right capabilities, at the right times, and in the right places” (Mathis & Jackson, 2011). The process begins by considering the organizational strategic objectives and subsequent strategic human capital management strategic objectives. After comparing several public and private sector models, GAO concluded the following four steps are generally common to strategic workforce planning efforts (GAO, 2003):

- Examining future organizational, environmental, and other issues that may affect the agency’s ability to attain its strategic goals

- Determining the skills and competencies needed in the future workforce to meet the organization’s goals and identifying gaps in skills and competencies that an organization needs to address
- Selecting and implementing human capital strategies that are targeted toward addressing these gaps and issues
- Evaluating the success of the human capital strategies

Although strategic workforce planning processes across organizations vary somewhat, they all typically involve four steps as shown in Figure 21 (Gates, Eibner, & Keating, 2006).

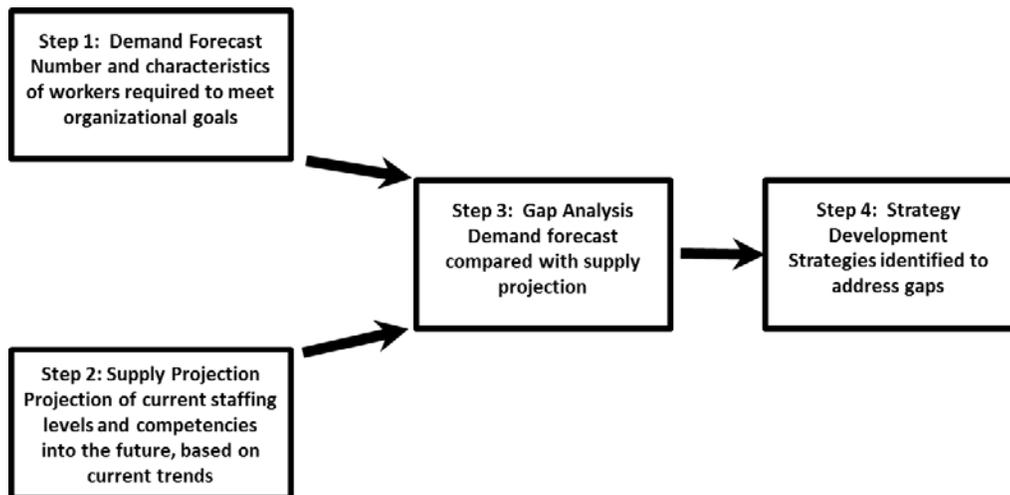


Figure 21. Strategic Workforce Planning Process

The strategic workforce planning process described in the following sections utilizes common steps identified throughout the body of literature on the subject in addition to complying with, and expanding upon, the policy outlined in DoD Instruction 1400.25, “DoD Civilian Personnel Management System: Volume 250, Civilian Strategic Human Capital Planning.”

Determining Demand

Two main tasks for determining workforce demand are: (1) estimating the current workforce requirements, and (2) estimating future workforce requirements. Each of these is further divided into the following subtasks (Vernez, Robbert, Massey, & Driscoll, 2007):

- Size—total number of positions needed
- Composition—shares of military, civilian, and contractor personnel
- Job competencies required—competencies that specific positions or groups of positions require

This task is further complicated since the JPEO-CBD, as a true Joint Service organization, relies heavily on a significant number of non-TDA personnel throughout many Joint organizations. An initial, as-is assessment of the workforce distribution across JPEO-CBD components is shown in Table 12 and the JPEO-CBD headquarters, shown in Table 13.

Table 12. Military, Civilian, and Contractor Distribution of JPEO-CBD Components by TDA (Count and Percent)

| ORGANIZATIONAL ELEMENT | CIV | MIL | MATRIX CIV | MATRIX MIL | CONTRACTOR | Total |
|------------------------|-------------|-----------|-------------|------------|-------------|-------|
| JPEO HQ | 60 (61.2%) | 6 (6.1%) | 5 (5.1%) | | 27 (27.6%) | 98 |
| JPM CBMS | 49 (54.4%) | 7 (7.8%) | 8 (8.9%) | | 26 (28.9%) | 90 |
| JPM TMTI | 3 (14.3%) | 2 (9.5%) | | | 16 (76.2%) | 21 |
| JPM CA | 24 (10.7%) | 6 (2.7%) | 153 (68.0%) | 1 (0.4%) | 41 (18.2%) | 225 |
| JPM Guardian | 72 (36.4%) | 10 (5.1%) | 24 (12.1%) | | 92 (46.5%) | 198 |
| JPM Protection | 35 (12.7%) | | 157 (56.9%) | 9 (3.3%) | 75 (27.2%) | 276 |
| JPM IS | 2 (8.7%) | 2 (8.7%) | 6 (26.1%) | 2 (8.7%) | 11 (47.8%) | 23 |
| JPM BD | 12 (10.3%) | 3 (2.6%) | 73 (62.9%) | | 28 (24.1%) | 116 |
| JPM MCM ADM | | | | | | |
| JPM Rad Nuc | | | | | | |
| Total | 257 (24.5%) | 36 (3.4%) | 426 (40.7%) | 12 (1.1%) | 316 (30.2%) | |
| | Grand Total | | | | | 1047 |

CBMS—Chemical, Biological Medical Systems

TMTI—Transformational Medical Technology Initiative

MCM ADM—Medical Countermeasures Advanced Development & Manufacturing

CA—Contamination Avoidance

IS—Information Systems

BD—Biodefense

Rad Nuc—Radiological & Nuclear

Table 13. Military, Civilian, and Contractor Distribution within JPEO-CBD HQ

| HQ Element | USA Civ | USMC Civ | USN Civ | USAF Civ | Contractor | Other | USA MIL |
|--------------------------|---------|----------|---------|----------|------------|-------|---------|
| DCOS ERM | 5 | 1 | | | 1 | | |
| ERM Bus Ops | 7 | | | 1 | 3 | | |
| ERM HCM | 10 | | | | 1 | | |
| ERM KM | 2 | | 2 | | 9 | | |
| Omnibus Contract | 2 | 1 | | | 1 | | |
| JPEO Front Office | 7 | | | | | | 1 |
| Office of Chief of Staff | 2 | | | | | | |
| OCoS Ops | 2 | | | | 3 | | |
| LNO/DASC Cell | 10 | 1 | 6 | | 1 | | |
| Security/Facilities | 3 | | | | 8 | | |
| PAPA | 12 | | | | 4 | | |
| Medical | 9 | | 1 | 2 | 8 | 1 | |
| P&SI | 22 | | | | 11 | 1 | |
| | | | | | | | |
| Sub Totals | 93 | 3 | 9 | 3 | 50 | 2 | 1 |
| | | | | | | | |
| Total Civ | 108 | | | | | | |
| Total Contractor | 50 | | | | | | |
| Total Other | 2 | | | | | | |
| Total Military | 1 | | | | | | |
| Total | 161 | | | | | | |

Source: “JPEO-CBD Headquarters Overview” briefing, November 27, 2012.

ERM—Enterprise Resource Management
 HCM—Human Capital Management
 OCoS Ops—Office of the Chief of Staff, Operations
 P&SI—Policy & Strategic Initiatives
 LNO/DASC—Liaison Office Dept. of the Army System Coordinator
 Bus Ops—Business Operations
 KM—Knowledge Management
 PAPA—Program Acquisition/Program Assessment

Describing the Supply

This task describes the current state of the workforce and how it is projected to look in the future. The descriptions mimic the dimensions and taxonomy used to describe workforce demand (size, composition, and competencies).

Comparing the Demand with the Supply

With the workforce supply and demand described in similar terms, an analysis can be conducted to identify potential gaps between the current and desired workforce. Subsequently,

options for bridging the gaps identified can be assessed. Vernez, et al., identify three primary methods organizations may use to address workforce gaps (Vernez, Robbert, Massey, & Driscoll, 2007).

- New accessions into the workforce. This involves bringing new personnel into the JPEO-CBD and or JPMs, either through new hires (Government civilian or contractor) or utilizing matrix supplemental employees from partner organizations.
- Adjusting the mix of the workforce composition by changing the allocations of military, core TDA civilian, matrix civilian, and contractor personnel. The focus of such moves is driven primarily by the experience, skills, expertise, and competencies desired.
- Developing the existing workforce through means such as enhanced education, training, and rotational job assignments within the JPEO-CBD, or in conjunction with partner organizations who supply matrix personnel.

Implementing Solutions to Meet Workforce Requirements

Filling gaps identified between demand and supply involves deliberate, analytic-based processes and practices. Appropriate metrics need to be chosen and routinely monitored to assure workforce requirements are met. If chosen properly, indicators of progress will allow decision makers to assess if the processes and practices put in place are achieving the effects desired and if not, will prompt corrective action.

Figure 22. Workforce Planning and Development Process represents an analytically grounded strategic workforce development and management model. This model has been adapted for JPEO-CBD needs, with permission from the RAND Corp. As shown in Figure 22, the active involvement of JPEO-CBD senior leadership, Joint Project Managers, program management

offices, and matrix supply organizations is required to implement the workforce planning and development steps. Data derived from analytics and personnel records are used to complement senior-level insight and expertise to consider trade-offs and make policy decisions. The process also considers the strategic direction of the JPEO-CBD, informed from the organization's strategic plan and national strategies. For the process to improve and maintain relevance, the continued capture of information and personnel data are essential.

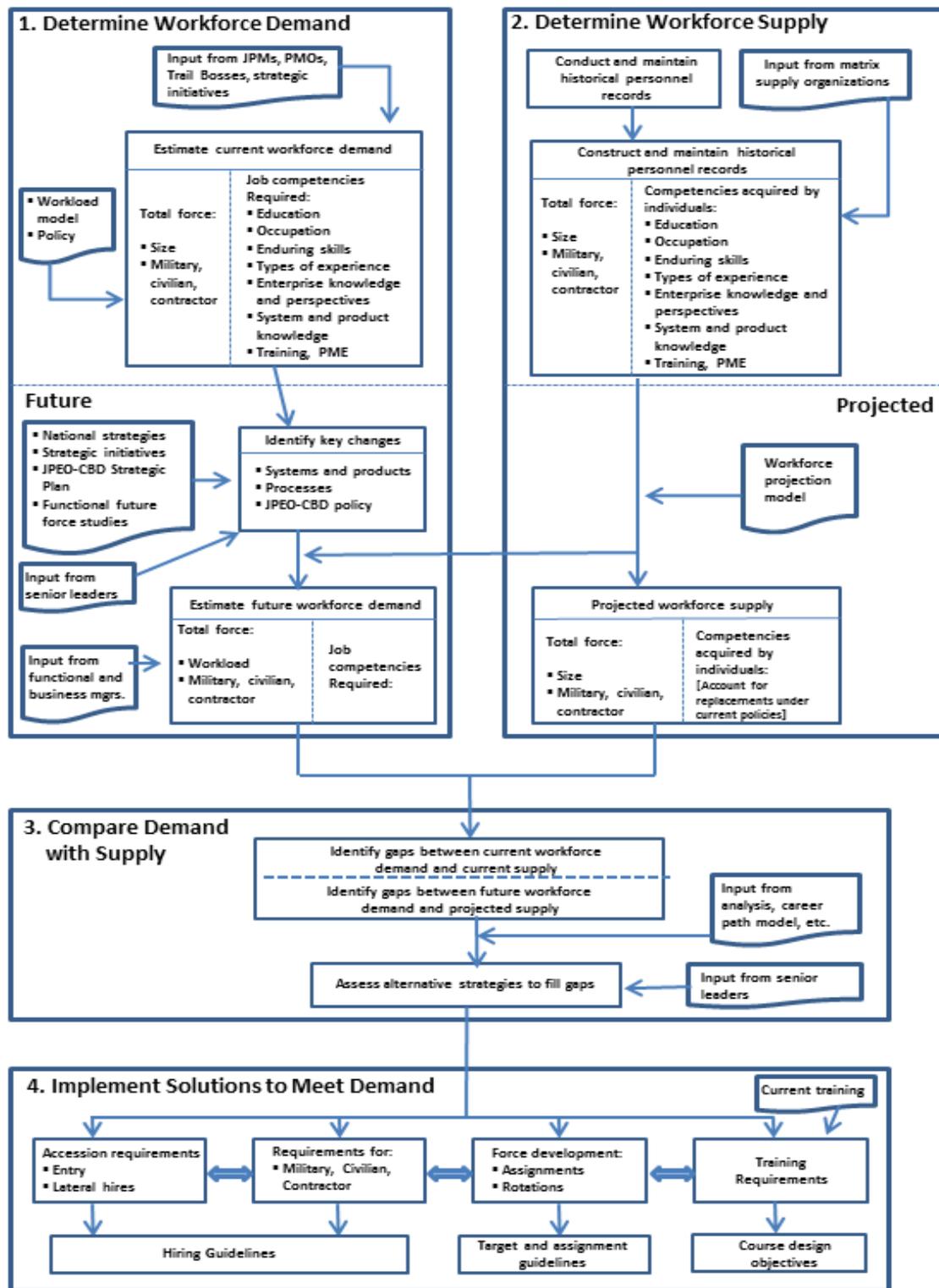


Figure 22. Workforce Planning and Development Process

Chapter 5—Conclusions and Recommendations

Strategic Workforce Planning

Implementing strategic workforce planning within the JPEO-CBD requires the active involvement of command senior leaders, JPMs, and PMs in addition to the HCMD staff. The outline for this section will follow the process portrayed in Figure 22. Workforce Planning and Development Process, and leverage some of the recommendations RAND conveyed in “Workforce Planning and Development Processes” to support the Air Force Materiel Command (Vernez, Robbert, Massey, & Driscoll, 2007). Throughout the section, opportunities for JPEO-CBD senior leadership involvement in the strategic human capital management process will be annotated.

Determining Workforce Demand

Determining workforce demand involves estimating the size, composition, and competencies for the current and future JPEO-CBD workforce at the JPM and headquarters level. The outcome of this exercise should be the total Joint military, civilian, and contractor staff required to effectively and efficiently execute the mission of the JPEO-CBD. The Army is the Executive Agent of the CBDP, and as such, must comply with established TDA authorization caps.

Estimating Total Workforce Size

The first subtask in shown in Figure 22. Workforce Planning and Development Process, involves estimating total JPEO-CBD workforce size for the command as a whole and each JPM line organization. This determination should be based on the human capital needs required to effectively and efficiently execute the JPEO-CBD mission, its programs of record, and achievement of the command’s strategic objectives. While this estimate may exceed manpower constraints, it allows JPEO-CBD to support a sound business case for budget justifications and

manpower adjustments to the TDA. Second, the analysis can greatly inform trade-off decisions between JPM line units when manpower allocations are limited. Third, the analysis can be of great value when negotiating with organizations supplying matrix personnel to the JPEO-CBD. Finally, workforce requirements within individual PMOs will vary over time as materiel solutions go through the acquisition life cycle. Therefore, estimates of workforce demand will assist senior leaders in the allocation of people to projects. Conducting this analysis on a yearly basis is recommended to inform the process with relevant and timely data. Estimating workforce size will require the expert judgment of JPMs and command staff leaders. Two models that may be of use when conducting this analysis are the Most Efficient Organization, outlined in OMB Circular A-76, and the Sustainment and Acquisition and Composite Model developed by the Air Force Materiel Command.

Workforce Composition

The next task involves determining the optimal composition of the workforce in terms of military, civilian, and contractor personnel. According to Table 12, contractors represent anywhere from 18 percent to 76 percent of line unit staffs within JPEO-CBD organizational elements. With a wide disparity in missions between JPMs, it is difficult to ascertain an optimal composition. The JPEO-CBD should conduct an analysis of the functions contractors perform in support of the analysis determining the optimal workforce mix. DoDI 1100.22, *Policy and Procedures for Determining Workforce Mix*, which establishes policy, assigns responsibilities, and prescribes procedures for determining the appropriate mix of manpower (military and DoD civilian) and private sector support, should be used in support of this analysis (DoD, 2010). Optimal mix will ultimately require expert judgment in determining the desired flexibility within the workforce and local labor market conditions, coupled with the traditional rationales for utilizing support

contractors (shortage of civilian personnel with a particular expertise, staffing limits on civilian personnel, particular expertise sought is generally not hired by the government, ease or speed of bringing on contractor personnel, short-term requirement, etc.).

Estimating Competencies

A critical foundation for DoD's Acquisition Workforce Improvement Strategy is to improve acquisition workforce quality in addition to strategic resizing and shaping. According to the April 2010 update, DoD has identified 22 mission-critical occupations with an intent to complete competency assessments in order to identify gaps for improved training and human capital planning (DoD, 2010). GAO assessed DoD's strategy as sound, recognizing the necessity of conducting competency gap analyses; however, to date, it had not (1) completed assessments of the skills and competencies of its acquisition workforce and (2) included in its plan an assessment of what the appropriate mix of its total acquisition workforce should be (GAO, 2011). The latest information concerning the USD(AT&L) Human Capital Initiatives program can be accessed via the Defense Acquisition Portal (USD(AT&L), 2013). Final reports concerning 15 competency assessments can be accessed. These reports provide valuable information to human capital strategic planners to aid in the determination of critical competencies for their workforces. For instance, the Program Management career field was assessed and the competencies that are performed most often, which are critical to the job, and have the highest proficiency ratings were determined to be: (1) working groups and teams, (2) risk and opportunity management, (3) concept selection process, (4) prepare and issue solicitation, and (5) prepare requirements and support documentation. According to the report, "This suggests that across the Program Management competency element behaviors related to teamwork, risk and opportunity management, concept/strategy development, and overseeing the contracting functions are core to successfully

performing the job. Behaviors related to these competencies should be used to evaluate the effectiveness of program managers and the human capital programs that develop and support them” (USD(AT&L), 2013).

JPEO-CBD should consider applying a similar framework and leveraging the results of these career field competency assessments in their determination of competencies needed for the military and civilian positions that are core to the achievement of its current mission and its strategic objectives. Determining the competencies for selected positions can be accomplished through focus group recommendations to the HCMD for subsequent presentation to senior leadership.

[Estimating Size, Composition, and Competencies Required for the Future Workforce](#)

Several sources of information should be used to aggregate future workforce assessments, utilizing the current composition as a frame of reference. First and foremost, the CBDP and JPEO-CBD strategic plans describe the evolving threat and the fiscal environment the program will operate in, which assists in aligning resources to achieve strategic objectives. The CBDP Strategic Plan reflects the need to work strategically with interagency, international, and nongovernmental partners in meeting warfighter requirements (Assistant Secretary of Defense for Nuclear, Chemical and Biological ASD(NCB) Defense Programs, 2012, June 15). The JPEO-CBD Strategic Plan supports the CBDP Strategic Plan, emphasizes the collaborative development of whole-of-government solutions, and identifies with greater emphasis, the shift toward increasing emphasis on medical countermeasures. Other documents that inform resourcing include Guidance for NCB Defense Programs, Program Objective Memorandum Development (POM), Program Strategy Guidance Implementation Plan, and input from key CBDP Enterprise Stakeholders. Changes in workforce composition can be interpreted from the strategic direction annotated in the documents

referenced above. Senior leaders and JPMs should attempt to reach a consensus concerning the anticipated future workforce requirements. JPEO-CBD HCMD should facilitate this effort and establish a future planning period the analysis will cover. Augmenting this analysis should be the product of senior leader and expert opinion concerning JPEO-CBD products, acquisition processes, and expected organizational changes. The JPEO-CBD Senior Advisor/Retired Senior Leader Cell should lead the augmentation assessment leveraging their broad knowledge, acquisition experience within the CDBP, technical skills, and organizational business acumen. Some of the anticipated changes requiring a workforce demand and competency assessment include developing medical countermeasures meeting the Defense Acquisition System and the FDA regulations, interagency collaborative efforts, expanded radiological and nuclear defense programs, biosurveillance, transformational medical technologies, advanced development and manufacturing for medical countermeasures, integrated base defense, and global CWMD situational awareness, among others. Expert judgment should again be used to determine the competencies required of the future workforce in carrying out these changing mission sets. Senior leaders should not delegate this task too far below a certain level. To optimize the analysis' usefulness, leadership participation should be directed at those close to directing product development yet high enough to maintain a strategic view of the JPEO-CBD organization. One common technique for this type of analysis is the Delphi questionnaire. This involves querying a group of experts about their opinions. The analyst seeks information and supporting rationale independently from each expert. Then the analyst summarizes the results and sends a report to each expert. The analyst gathers a second opinion from each expert, summarizes those results, and reports again to the experts. This iterative process continues until the experts reach a consensus, or near-consensus.

Determining Workforce Supply

The next step involves characterizing the current and projected workforce supply using the same attributes that characterized the current and future workforce demand. The three main tasks involved in determining workforce supply, as portrayed in Figure 22, involve the development and maintenance of personnel records conveying the workforce characteristics of interest, identifying the competencies acquired within the workforce supply, and projecting the characteristics of the workforce over the same time period identified by HCMD when executing the previous workforce demand process.

Personnel Records

To characterize the supply side of the workforce, JPEO-CBD needs accurate and timely information portraying the core TDA workforce in addition to the matrix supply organizations that provide such a significant number of personnel to the organization. This information should characterize both military and civilian employees. Since JPEO-CBD is a truly Joint Service organization, a separate initiative, led by HCMD, should determine how to efficiently capture this information, which likely exists in disparate Service and organizational databases. This task has the potential to be very labor intensive. Therefore, a decision will be needed concerning the depth and breadth of information to be captured and at what level in the organization. Civilian and military personnel and training record systems currently capture a host of data concerning demographics, acquisition certifications, education, work assignment history, etc.

Competencies

Identifying an initial set of competencies attributed to individuals could become labor intensive. HCMD should fully leverage the workforce competencies identified within the USD(AT&L) Human Capital Initiatives program in this effort.

Projecting Current Workforce Trends

The changing makeup of the workforce needs to be projected into the future to make assessments concerning the future workforce supply. A method is required to characterize the future workforce supply after accessions, retirements, lateral movements, promotions, other separations, etc., have had throughout the period under evaluation. A workforce projection model developed by RAND, estimates how workforce characteristics change based on an organization's hiring practices and estimates of the rates of movement identified above. It is recommended that JPEO-CBD obtain the latest workforce projection model from RAND and familiarize itself with the functions and features. If adequate, this model can be used to "age" the workforce, and custom analyses can be generated based on JPEO-CBD specific inputs. Retirement eligibility projections are essential aids for determining recruitment, retention, and succession planning strategies. For more information on RAND's workforce projection model, see "An Operational Process for Workforce Planning" (Emmerichs, Marcum, & Robbert, An Operational Process for Workforce Planning, 2004).

Additional Workforce Supply Sources

Many of the new mission and strategic initiatives JPEO-CBD is pursuing are mutually supportive of the missions other institutions are pursuing such as those performed in Federally Funded Research and Development Centers, interagency entities such as the FDA, Public Health Command, Defense Threat Reduction Agency, Defense Nuclear Detection Office, and educational institutions such as the Johns Hopkins Applied Physics Laboratory, to name a few. Workforce supply projections can be informed if adequate knowledge concerning the full range of sources is known. JPEO-CBD should obtain overview and personnel expertise/competency briefings for each of the potential partner institutions and make these available to senior leadership and JPMs for

consideration of future personnel arrangements. The capability of these institutions should be considered when JPEO-CBD is contemplating entering into, developing, and sustaining interorganizational partnerships in pursuit of collective outcomes.

The Uniformed Services University of the Health Sciences (USUHS) in Bethesda, MD, should be investigated as a potential source of future workforce supply to the Medical Countermeasures domain within JPEO-CBD. The mission of USUHS is to train, educate, and prepare uniformed services health professionals, officers, and leaders to directly support the Military Health System, the National Security and National Defense Strategies of the United States, and the readiness of the Armed Forces. The university's research program covers a range of clinical and other topics important to both the military and public health. Infectious diseases, trauma medicine, health maintenance, and cancer are areas of particular strength. Researchers also are making important new efforts in state-of-the-art fields that cut across disciplines, such as genomics, proteomics, and drug-delivery mechanisms.

JPEO-CBD should consider leveraging the Services' programs for attracting personnel to the health sciences fields. To remain competitive, the Services offer several scholarship, financial assistance, and continuing education programs in exchange for a commitment to serve following the completion of studies and awarding of medical and or medical research degrees.

JPEO-CBD could consider applying for authority prescribed within Title 38 to compensate physicians similar to that employed by the Veterans Administration. Under the Title 38 pay system, market pay and performance pay, are discretionary compensation components meant to reflect the recruitment and retention needs for the specialty of assignment of the particular physician.

Comparing the Demand with the Supply

The next step involves comparing the results of the previous two steps to determine any gaps between projected demand and projected supply. Strategies are then developed to address the gaps through three primary mechanisms: (1) hiring actions (or lateral transfers), (2) altering the mix of civilian, military, and contractor personnel, and (3) developing the required competencies within the workforce through training and development. It is recommended that JPEO-CBD perform a competency analysis of the existing and projected workforce occurring at the JPM, PMO, and HQ levels. The process identified to mitigate discrepancies between the desired and existing workforce should include active monitoring once implemented since acquiring the requisite knowledge, skills, abilities, and competencies within the desired workforce will take some time.

As portrayed in Table 14. Civilian Personnel Employment By Base, the APG installation is the seventh-largest employer of DoD civilians by base location (Nixon, 2013).

Table 14. Civilian Personnel Employment By Base

| Rank | Base | Civilian Personnel |
|------|-------------------------|--------------------|
| 1 | Tinker AFB | 16,355 |
| 2 | Redstone Arsenal | 15,900 |
| 3 | Robins AFB | 15,327 |
| 4 | Wright-Patterson AFB | 13,603 |
| 5 | Norfolk Naval Base | 13,599 |
| 6 | NS Bremerton | 13,069 |
| 7 | Aberdeen Proving Ground | 12,344 |
| 8 | Washington NAVDIST HQ | 12,062 |
| 9 | Hill AFB | 11,705 |
| 10 | Fort Belvoir | 11,261 |
| 11 | Fort Bragg | 10,467 |
| 12 | Norfolk NAV SHIPYD | 9,456 |
| 13 | Patuxent River NAS | 9,101 |
| 14 | Fort Sam Houston | 8,931 |
| 15 | Lackland AFB | 8,173 |
| 16 | Fort George G. Meade | 7,168 |
| 17 | Pentagon | 7,166 |
| 18 | Fort Lewis | 7,074 |
| 19 | Fort Knox | 6,461 |
| 20 | DFAS Columbus Center | 6,176 |

Source: Defense Manpower Data Center

Table 15 shows that 135,877 federal civilian employees work in Maryland. Of that total, 46,027 or 34 percent are DoD employees.

Table 15. States With Largest Number of Federal Civilian Employees

| State/District | Federal Civilian Employees | DoD Employees |
|----------------------|----------------------------|---------------|
| California | 169,550 | 62,742 |
| District of Columbia | 164,348 | 13,329 |
| Virginia | 146,392 | 93,841 |
| Texas | 143,838 | 51,488 |
| Maryland | 135,877 | 46,027 |
| Florida | 89,673 | 30,240 |
| Georgia | 79,909 | 37,166 |
| Pennsylvania | 68,164 | 25,446 |
| New York | 67,342 | 11,752 |
| Washington | 57,178 | 29,220 |
| Ohio | 52,590 | 25,765 |

Source: Office of Personnel Management’s Fedscope database.

JPEO-CBD should leverage the tremendous workforce resources at Aberdeen Proving Ground and in the surrounding area. Maryland ranks second in the nation in the percentage of professional and technical workers in the workforce. More than 200,000 professionals reside within a 60-minute commute of Aberdeen Proving Ground; 500,000 professionals reside within a 90-minute commute. Maryland also ranks third in the nation in the number of adults with bachelor degrees or higher; first for Ph.D.s in mathematical, biological, and health science; third in physical sciences; and fifth in federal government employment. At Aberdeen Proving Ground, personnel have 379 doctorates with 81 postdoctoral academic credentials, 1,446 master’s degrees and more than 5,100 bachelor’s degrees (Chesapeake Science & Security Corridor, 2012).

In addition, JPEO-CBD should make a concerted effort to determine the skills required for new missions, such as molecular biologists and biomedical engineers for the programs supporting the new medical countermeasures initiatives. The Bureau of Labor Statistics should be consulted for data pertaining to each job series based on geographic location. These data will allow a comparison between government and private industry salary, total benefits, and total compensation packages for these specialties.

Implementing Solutions to Workforce Requirements

The workforce development steps previously accomplished need to be implemented to meet projected demand. The steps outlined in Figure 22 involve determining the requirements for hiring into the JPEO-CBD. The ideal mix of personnel (civilian, military, and contractor), force development opportunities targeted to address competency gaps, and the emphasis with particular training requirements should be developed.

Career Development as a Workforce Development Strategy

Specific training and/or development assignments should be considered as one of the first strategies for addressing workforce competency gaps. In addition, a combination of hiring, promotion, job rotations, and career broadening activities may merit more consideration than any one unilateral tactic. JPEO-CBD should consider developing and emphasizing a broad-based career development program for the CBRN acquisition professional. The command requires a knowledgeable workforce of leaders who are innovative, can think both creatively and systematically, are willing to embrace change, and are endowed with the critical skills requisite for collaboration and partnering. Particular courses of emphasis could include CBRN fundamentals, leadership, management, Senior Service College participation, stakeholder management, advanced program management, leading teams, understanding industry, and developing interagency partnerships, to name a few. The National Defense University offers a master's degree in CWMD that may be of particular value to JPEO-CBD leadership. Consideration also should be given to developmental assignments with partner organizations such as the FDA. Lastly, the JPEO-CBD should consider establishing a mentor program. Mentoring is a form of tutoring where the emphasis is on personal guidance. The forms of mentoring include educational or academic mentoring, career mentoring, and personal development mentoring. Many organizations have

successfully used mentoring to grow individuals through the interactions between individuals to enhance career planning and personal and professional development. Individuals who desire to develop a broader range of understanding will benefit from a mentoring relationship with a more experienced person.

[Army Career Tracker](#)

Army Career Tracker (ACT) is an online leader development tool which integrates training, education, and experiential learning into one personalized interface to help acquisition employees plan career progression and development. Short- and long-term goals can be established within the framework supporting individual development plans (IDPs) and a means to track career progression. Career maps for acquisition career program fields are provided for guidance.

[APG Installation Reassignment Program \(IRP\)](#)

Another recruitment source JPEO-CBD should consider is the APG IRP. IRP assists in providing employees the opportunity to engage in noncompetitive lateral placements across many of the tenant organizations at Aberdeen Proving Ground. Organizations place vacancy notices on a MilSuite page with information about the position and how to submit resumes. The IRP represents an opportunity to get trained individuals into positions quickly. All APG organizations are participating and the IRP is open to all series, grades, and positions.

[CWMD Master's Degree](#)

The CBBDP has established a graduate fellowship program in CWMD, leading to a master's degree in CWMD Studies. The program is designed to meet the advanced education needs of DoD CWMD practitioners and to foster a community of DoD leaders with deepened CWMD expertise. The program will use the three combating WMD doctrinal pillars and the eight CWMD mission areas to frame a comprehensive curriculum covering nuclear, biological, and chemical weapons. It will include

a substantive research component and CWMD community-building opportunities through a 2-year colloquium taught by the Center for the Study of Weapons of Mass Destruction at National Defense University. The program will be fully funded by the CBDP.

[Civilian Leader Improvement Battery \(CLIMB\)](#)

CLIMB is a leader development assessment designed to help personnel plan for and acquire leadership skills through the identification of leadership strengths and areas needing development or refinement. CLIMB was developed in response to the anticipated retirement of many mid-level and senior-level managers throughout the civilian workforce. The CLIMB measures individuals' standing on 27 leadership competencies and six personal characteristics. CLIMB results are linked to specific training opportunities that can be included in IDPs. The CLIMB is a Web-based application, and having an Army Knowledge Online account is required.

[Senior Enterprise Talent Management \(SETM\)](#)

SETM is a civilian leader talent management program for GS-14/15 and equivalent employees. It prepares participants for positions of greatest responsibility in the Department of Army through advanced senior-level educational and experiential learning opportunities. SETM is comprised of the Enterprise Placement Program allowing eligible employees to volunteer for participation in a central talent management program, project-based TDY providing stretching and broadening opportunities gained through participation in projects throughout Army, Senior Service College providing eligible employees the opportunity to attend the Army War College or the Dwight D. Eisenhower School for National Security and Resources Strategy, and the Defense Senior Leader Development Program, which provides participants with joint experience and training.

Numerous other development opportunities exist such as the Acquisition Leadership Challenge Program (ALCP), Acquisition Tuition Assistance Program (ATAP), Advanced Civil

Schooling (ACS), Competitive Development Group (CDG) Program, DAU-SSCF Program, Executive Leadership Program (ELP), Naval Postgraduate School (NPS), School of Choice (SOC), and Training with Industry (TWI).

Recruitment Guidelines Should be Competency Based

Armed with the aforementioned competency goals, the JPEO-CBD HCMD can make informed decisions concerning acquiring individuals with the requisite skills to perform needed jobs supporting the achievement of command strategic objectives. Absent this information, the directorate will lack the means to acquire talent in a coordinated and concerted effort, and will likely fall back on hiring decisions which reflect the current workforce.

Strategic Partnerships with ECBC and other Organizations Essential to Mission Success

ECBC as a Strategic Partner

The partnering relationship between JPEO-CBD and ECBC is captured annually in a Memorandum of Understanding (MOU). The MOU characterizes ECBC matrix personnel engineering, technical, and logistics support to Integrated Product Teams supporting JPMs. ECBC has appointed a senior leader “Client Manager” who functions as a single voice to the customer (JPEO-CBD) through which personnel support can be coordinated. The MOU also covers agreed upon overhead rates for personnel, training, telework, transfers, and office space. The total ECBC matrix personnel in support of the JPEO-CBD HQ and JPMs were estimated to be approximately 231 personnel. ECBC Engineering Directorate end strength is approximately 400 employees. A little more than half (202 of 400) or 50.5 percent are matrixed in terms of full time equivalency. JPEO-CBD greatly augments its government civilian workforce with matrix individuals. More than half of these individuals are supplied by ECBC. The individuals ECBC supplies represent more than half of the TDA end strength of ECBC’s internal Engineering Directorate. With such a

strong symbiotic relationship between the two organizations, it is recommended that JPEO-CBD strengthen its strategic relationship with ECBC and extend its human capital strategic planning efforts and processes with the ECBC Engineering Directorate.

Partnerships as Essential Mechanisms to Deliver Whole-of-Government Solutions

JPEO-CBD senior leaders often find themselves operating in a Joint service and interagency environment. A key leadership skill required to deal with the multitude of stakeholders in this environment is the ability to manage networks. Such skills were described in a recently published book by Stephen Goldsmith and William D. Eggers titled, *Governing by Network: The New Shape of the Public Sector* (Goldsmith & Eggers, 2004). Managing and orchestrating networks of interagency and inter-Service individuals is a dramatically different type of endeavor than simply managing divisions of employees. JPEO-CBD should seek to instill the leadership competencies required to operate in just such an environment. Some of these competencies range from specific skills (negotiation, stakeholder management), technology issues (compatibility of interagency information systems); communications issues (collaboration tools, information management); and cultural issues (harmonizing incongruent organizational cultures on interagency programs, and strategy/culture alignment).

Developing Strategic HR Professionals within JPEO-CBD

In order to perform as a true strategic business partner within JPEO-CBD, the HCMD should continue developing its HR professionals. This involves equipping HCMD personnel with the requisite knowledge, skills, and abilities to continue the directorate's evolution from a traditional, operational emphasis to a strategic emphasis. While HCMD will need to continue oversight and implementation of areas such as personnel actions, career counseling, training and development, benefits, and employee performance evaluation, it also must develop strategies

aligning with the JPEO-CBD’s strategic objectives. As an organizational strategic business partner, HCMD should continue to focus its efforts toward ensuring human resource strategies are developed to support the attainment of specific JPEO-CBD strategic objectives. The focus areas of strategic HR are outlined in Table 16 (Mathis & Jackson, 2011).

Table 16. Traditional HR vs. Strategic HR

| <i>FOCUS</i> | <i>TRADITIONAL HR</i> | <i>STRATEGIC HR</i> |
|--------------------------|---|---|
| View of organization | <ul style="list-style-type: none"> • Micro • Narrow skill application | <ul style="list-style-type: none"> • Macro • Broad skill application |
| Critical skills | <ul style="list-style-type: none"> • Organization • Administration • Compliance • Transactional • Tactical | <ul style="list-style-type: none"> • Strategic • Planning • Diagnostic • Analytical (metrics) • Consultative |
| View of employees | <ul style="list-style-type: none"> • Head count • Cost based • Exploitable resource | <ul style="list-style-type: none"> • Contributors • Asset-based • Critical resource |
| Planning outlook | <ul style="list-style-type: none"> • Short-term • Low-risk • Traditional; utilizes tried-and-true approaches | <ul style="list-style-type: none"> • Long-term • High-risk • Experimental; tries novel approaches |
| HR systems and practices | <ul style="list-style-type: none"> • Routine, traditional • Reactive • Responds to stated needs | <ul style="list-style-type: none"> • Adaptive, innovative • Anticipatory, proactive • Recognizes unstated needs |
| Education and training | <ul style="list-style-type: none"> • Traditional HRM specialists and generalists • Other specialties | <ul style="list-style-type: none"> • Business acumen • Comprehensive HRM body of knowledge • Organizational development |

In order for HCMD to optimize its contribution to the JPEO-CBD strategic planning effort, personnel must become proficient in a variety of skills. The following six primary strategic competencies are critical for strategic HR professionals (Ulrich & Brockbank, 2006).

- Credible Activist: challenges assumptions and offers a point of view.
- Culture and Change Steward: shapes the organizational culture, makes changes happen.

- Talent Manager/Organization Designer: acquires and deploys talent, embeds capabilities into the organizational structure.
- Strategy Architect: recognizes business trends, forecasts potential obstacles to business success, and builds overall strategy.
- Operational Executor: efficiently and effectively carries out tactical HR activities.
- Business Ally: understands the business value chain, and establishes internal partnerships with line managers.

Near-, Mid-, and Long-Term Recommendations

People represent an organization's most important resource and determine its ability to execute its mission by acquiring, developing, and applying specific knowledge, skills, and abilities supporting mission goals and objectives. During the past several years, the JPEO-CBD has experienced a significant amount of change in its external and internal operating environment. These changes represent challenges which will have a profound impact on JPEO-CBD's ability to plan, recruit, develop, and sustain the workforce. Many of the elements of this volatile and complex environment are common in most acquisition organizations and are characterized by budgetary uncertainties, mix of civilian, military, and contractor determinations, an uneven age and experience workforce demographic profile, and meeting acquisition reform initiatives. Some of the unique challenges confronting the JPEO-CBD involve a changing mix of medical/non-medical programs within the portfolio, lack of PMO flexibility, challenging human capital management practices across a diverse, multi-organizational, multi-Service matrixed workforce, and the execution of several new transformational and whole-of-government strategic initiatives.

Like most acquisition organizations, JPEO-CBD faces a talent drain due to looming retirements. In addition, the workforce age and experience demographic profiles are changing, the effects on JPEO-CBD's capability to execute its portfolio of programs is yet to be determined. The key to implementing strategies to mitigate this and other associated risks involves the implementation of strategic human capital management. The difficulty associated with JPEO-CBD's ability to strategically manage its workforce is compounded by its diverse, multi-organizational workforce. JPEO-CBD's workforce made up of 42 percent matrix employees and 30 percent contractors. Matrix personnel are supplied from multiple Joint Service organizations, and not all are within DoD. Most of the non-TDA core competencies are primarily in the engineering, science, and technical domains, which are critical to program success. In addition, numerous compensation, evaluation, training, and development systems govern matrix employees, making the challenge all the more difficult.

In the near term, JPEO-CBD should acquire and centrally manage a set of complete historical files representing the workforce. Accurate and timely data are required in order to make sound, analytically based human capital decisions. JPEO-CBD should expand and improve the survey instrument or find a better way to capture the data. While the survey instrument shed light on some human capital issues within the organization, there were too few respondents overall and too few from several JPMs to draw firm conclusions. Data generated from the USD(AT&L) Human Capital Initiatives and USD(AT&L) Acquisition Workforce Strategic Plan should be leveraged to the degree appropriate. This is especially true concerning the findings these efforts have identified with regard to workforce competencies within DAWIA occupational series. Other data sources, such as the Defense Manpower Data Center, offer an abundance of demographic and job-related information on the DoD acquisition workforce. It is worth noting, however, that

analytically driven forecasts of workforce supply, demand, and gap analyses yielding actionable strategies can only be derived at the organizational unit level—i.e., JPEO-CBD. Only JPEO-CBD is attuned to its specific personnel requirements with sufficient fidelity to support implementation of strategic workforce planning.

For the longer term, JPEO-CBD should consider utilizing the human capital model proposed. RAND has been improving its workforce projection tool—a key component of the model and useful for performing workforce projections into the future.

After acquiring additional data and ensuring the data are kept up to date, JPEO-CBD can ensure the right people are in the right place, and at the right time to accomplish the mission through a systematic process of identifying and analyzing the current workforce, identifying organizational strategic objectives and workforce competencies to achieve them, comparing present workforce competencies to those needed in the future, and then developing plans to transition from the present workforce to the future workforce.

The JPEO-CBD faces new and more complex challenges, requiring it to transform its approach to the acquisition and delivery of Joint Service and interagency capabilities. The steps involved in strategic human capital management will underpin the organization's capacity to develop, train, and retain the multi-skilled workforce required for these missions. Together, strategic human capital management will greatly assist the organization in achieving its vision of an agile, results-oriented, and transformational acquisition enterprise delivering net-centric, modular, tailorable, and multipurpose capabilities to the nation.

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Glossary of Acronyms and Terms

| | |
|---------------|--|
| ACS..... | Advanced Civil Schooling |
| ACT | Army Career Tracker |
| ALCP | Acquisition Leadership Challenge Program |
| ATAP..... | Acquisition Tuition Assistance Program |
| AT&L..... | Acquisition, Technology and Logistics |
| BBP | Better Buying Power |
| CBDP..... | Chemical and Biological Defense Program |
| CBRN..... | Chemical, Biological, Radiological, Nuclear |
| CDG..... | Competitive Development Group |
| CLIMB..... | Civilian Leader Improvement Battery |
| CME..... | Contractor Manpower Equivalent |
| CWMD..... | Combating Weapons of Mass Destruction |
| DAU..... | Defense Acquisition University |
| DAWDF..... | Defense Acquisition Workforce Development Fund |
| DAWIA..... | Defense Acquisition Workforce Improvement Act |
| DMDC | Defense Manpower Data Center |
| DoD..... | Department of Defense |
| DoDI | Department of Defense Instruction |
| ECBC | Edgewood Chemical Biological Center |
| ELP | Executive Leadership Program |
| FDA | Food and Drug Administration |
| GAO..... | Government Accountability Office |
| HCMD | Human Capital Management Directorate |
| HQ..... | Headquarters |
| HR..... | Human Resources |
| HRM | Human Resources Management |
| IDP..... | Individual Development Plan |
| IPT | Integrated Product Team |
| IRP | Installation Reassignment Program |
| JPEO-CBD..... | Joint Program Executive Office for Chemical and Biological Defense |

JPMJoint Project Manager
MDMedical Doctor
MOUMemorandum of Understanding
NASA.....National Aeronautics and Space Administration
NDAA.....National Defense Authorization Act
NPSNaval Postgraduate School
OMBOffice of Management and Budget
OPM.....Office of Personnel Management
OUSD(P&R).....Office of the Under Secretary of Defense for Personnel and Readiness
PhDDoctor of Philosophy
PM.....Program Manager
PMEProfessional Military Education
PMO.....Program Management Office
POM.....Program Objective Memorandum
RDEC.....Research, Development, and Engineering Center
SETM.....Senior Enterprise Talent Management
SOC.....School of Choice
SSCFSenior Service College Fellowship
TDATable of Distribution and Allowances
TWI.....Training with Industry
USD(AT&L).....Under Secretary of Defense for Acquisition, Technology and Logistics
USD(P&R).....Under Secretary of Defense for Personnel and Readiness
USUHSUniformed Services University of the Health Sciences

Appendix A—Survey Instrument

Introduction: Thank you for taking the time to complete this survey which will only require a few minutes to complete. The data collected will be used to capture existing JPEO-CBD workforce demographics. No personally identifiable information will be collected and as such, all responses are completely anonymous.

1. Select one of the following to indicate your personnel status: (Civilian, Military, and Contractor)
 - JPEO-CBD TDA civilian
 - Matrix civilian
 - JPEO-CBD TDA military
 - Matrix military
 - Contractor
 - Other, please specify _____

2. If matrix, identify your home organization: (Civilian and Military)
 - ECBC
 - NAVSEA
 - NAVAIR
 - USMC Systems Command
 - DTRA-JSTO
 - JRO
 - USAF Materiel Command
 - SPAWAR
 - CECOM
 - Other, please specify _____

3. How many years have you been supporting JPEO-CBD since its inception in 2003? (Civilian, Military, and Contractor)
 - 1-3
 - 4-6
 - 7-9

4. Organizational assignment: (Civilian, Military, and Contractor)
 - JPEO-CBD HQ
 - JPM Guardian
 - JPM Contamination Avoidance
 - JPM Protection
 - JPM Information Systems
 - JPM Transformational Medical Technologies
 - JPM Medical Countermeasures Advanced Development and Manufacturing
 - JPM Chemical Biological Medical Systems
 - JPM Radiological and Nuclear Defense (provisional)
 - JPM Biological Defense
 - Other, please specify _____

5. Enter years of Government service. (Civilian, Military, and Contractor)
 - 1-5
 - 6-10
 - 11-15
 - 16-20
 - 21-25
 - 26-30
 - 31-35

- 36-40
 - Other, please specify _____
6. Enter your age. (Civilian, Military, and Contractor)
- 20-25
 - 26-30
 - 31-35
 - 36-40
 - 41-45
 - 46-50
 - 51-55
 - 56-60
 - 61-65
 - 66-70
7. Pay Scale. (Civilian)
- General Service (GS)
 - Laboratory Personnel Demonstration
 - Acquisition Workforce Personnel Demonstration
 - Other, please specify _____
8. Grade. (Civilian)
- GS <12
 - GS 12
 - GS 13
 - GS 14
 - GS 15
 - SES
 - Lab Demo DB 1
 - Lab Demo DB 2
 - Lab Demo DB 3
 - Lab Demo DB 4
 - Lab Demo DE 1
 - Lab Demo DE 2
 - Lab Demo DE 3
 - Lab Demo DE 4
 - Lab Demo DK 1
 - Lab Demo DK 2
 - Lab Demo DK 3
 - Acq Demo NH 1
 - Acq Demo NH 2
 - Acq Demo NH 3
 - Acq Demo NH 4
 - Acq Demo NJ 1
 - Acq Demo NJ 2
 - Acq Demo NJ 3
 - Acq Demo NJ 4
 - Acq Demo NK 1
 - Acq Demo NK 2
 - Acq Demo NK 3
 - Other, please specify _____
9. Geographic work location. (Civilian, Military, and Contractor)

- APG, MD
- Ft. Detrick, MD
- Crystal City, VA
- Ft. Belvoir, VA
- Stafford, VA
- MacDill AF Base, Tampa, FL
- San Diego, CA
- Dahlgren, VA
- Charleston, SC
- Other, please specify _____

10. Primary career field (Civilian, Military and Contractor)

- Administrative
- Auditing
- Business - Cost Estimating
- Business - Financial Management
- Contracting
- Facilities Engineering
- Industrial and Contract Property Management
- Information Technology
- Life Cycle Logistics
- Production, Quality, and Manufacturing
- Program Management
- Purchasing
- SPRDE—S&T Manager
- SPRDE—Systems Engineering
- SPRDE—Program Sys Engineer
- Test and Evaluation
- Unknown
- Other _____

11. Certification achieved in primary career field (Civilian and Military)

- Level I
- Level II
- Level III
- Other, please specify _____

12. List any other career fields and certifications achieved in your non-primary career field (Civilian and Military)

- _____

13. Are your position certification requirements met for your position? (Civilian and Military)

- Yes
- No

14. Education Level (highest level attained)

- High School
- Some College
- Bachelors
- Masters
- PhD
- If you have additional degrees, list the type here _____

15. Are you eligible for early retirement? (Civilians)
- Yes
 - No
 - I don't know
 - If yes, enter year you became eligible _____
16. Are you eligible for normal retirement? (Civilians)
- Yes
 - No
 - I don't know
 - If yes, enter year you became eligible _____
17. When do you think you will retire? (Civilians)
- 1-3 years
 - 4-6 years
 - 7-9 years
 - 10-12 years
 - > 12 years
18. If you will be eligible to retire within the next 10 years, what factors will influence your retirement decision the MOST? (Civilian)
- Work related factors
 - Job satisfaction
 - VERA/VSIP
 - Personal factors
 - Health of self and family
 - Spouse retirement date
 - Financial factors
 - Change in the economy
 - Children in college
 - Reaching full Social Security benefit age
 - Lifestyle factors
 - Other, please specify _____
19. If you desire, please annotate any JPEO-CBD strategic human capital/workforce planning concerns or comments you may have _____

Appendix B—Interview Questions

Interview of JPEO-CBD Human Resource Director(s)

- Workforce Planning Overview
 - Involves getting the right number of people with the right set of competencies in the right jobs at the right time.
 - Involves creating a demand forecast for the workforce, conducting a supply analysis, performing a gap analysis, and developing a strategy for assessing gaps.
 - Describe current workforce planning efforts and the data used for such activities.
- Strategic Planning and Workforce Planning
 - Describe any strategic plan that influences the activities of the organization, and specify any strategic objectives that affect workforce planning.
 - What workforce characteristics or occupations are particularly important in view of the strategic plan?
- Supply Analysis
 - Describe the extent to which the organization monitors the composition of the civilian workforce, and what workforce characteristics are considered.
 - Describe workforce projection activities conducted by the organization, if any.
- Demand Analysis
 - Describe the extent to which the organization projects the composition of the civilian workforce that will be needed in the future and to describe the process.
- Gap Analysis
 - Describe the extent to which the organization compares supply and demand projections, and what strategies are used in the event that a gap between the two is identified.
- Use of Workforce Planning Information
 - Describe the extent to which the workforce planning information discussed is used by the organization and by other entities within the installation.
- Opportunity to raise important issues that were not touched upon.
- Relationships between JPEO-CBD HR and other tenants on APG?

