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The lean acquisition strategy behind the DOD's 2015 electronic health record system

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THESIS

THE LEAN ACQUISITION STRATEGY BEHIND THE DOD'S 2015 ELECTRONIC HEALTH RECORD SYSTEM

by

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September 2016

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The Department of Defense (DOD) failed in its previous attempt to acquire an enterprise electronic health record (EHR) system. The earlier program was plagued with schedule delays and cost overruns, which caused its failure. In July 2015, the DOD's Program Executive Office awarded a $4.3 billion contract for a new EHR system that was below cost and ahead of schedule. The objective of this research is to investigate the key reasons why the DOD has succeeded in acquiring its most recent EHR.

This study interviewed nine members of the Program Management Office (PMO) team for their opinions on and experiences with their acquisition and management strategies used during the procurement. The research showed that members from the program management to the program executive level shared commonalities in management styles that led to the successful acquisition of the DOD's newest EHR system. The research identified several factors key to the program's success: a tailored acquisition plan that allowed the PMO to directly report to the Under Secretary of Defense for Acquisition, Technology and Logistics; a separation between the medical communities and the acquisition team; an engagement with industry early in the process; and a motivated leadership.

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THE LEAN ACQUISITION STRATEGY BEHIND THE DOD'S 2015 ELECTRONIC HEALTH RECORD SYSTEM

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TABLE OF CONTENTS

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LIST OF FIGURES

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LIST OF TABLES

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LIST OF ACRONYMS AND ABBREVIATIONS

ACAT	acquisition category
AHLTA	Armed Forces Health Longitudinal Technology Application
ASD[HA]	Office of the Assistant Secretary of Defense for Health Affairs
ATP	authority to proceed
CDC	Center for Disease Control and Prevention
CITPO	Clinical Information Technology Program Office
CHCS	Composite Health Care System
CHCS II	Composite Health Care System version II
CMIO	chief medical information officer
CONUS	continental United States
COTS	commercial-off-the-shelf
DHA	Defense Health Agency
DHMS	Defense Health Management System
DHMSM	Defense Healthcare Management System Modernization
DOD	Department of Defense
DOD 5000.02	Department of Defense Instruction 5000.02 Operation of the Defense Acquisition System
DOD IG	Department of Defense Inspector General
DAU	Defense Acquisition University
EHR	electronic health record
FY	fiscal year
GAO	Government Accountability Office
HIT	health information technology
HITECH ACT	Health Information Technology for Economic and Clinical Health Act of 2009
iEHR	Integrated Electronic Health Record
IRB	Institutional Review Board
IT	information technology
MHS	Military Health System

MUMPS	Massachusetts General Hospital Utility Multi-Programming System
NPS	Naval Postgraduate School
OCONUS	outside continental United States
OMB	U.S. Office of Management and Budget
OUSD (AT&L)	Office of the Under Secretary of Defense for Acquisition, Technology and Logistics
PEO	Program Executive Office
PM	program manager
PMO	Program Management Office
PPBES	Government Program, Planning, Budgeting and Execution System
RFI	request for information
RFP	request for proposal
SPAWAR	Space and Naval Warfare Systems Command
SYSCOM	systems and material command
USD (AT&L)	Under Secretary of Defense for Acquisition, Technology and Logistics
VA	U.S. Department of Veterans Affairs
VISTA	Veterans Information Systems and Technology Architecture

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This was a difficult journey to finish my thesis, spanning many years. I know that it has all been worth the pain and long nights. I would like to take this opportunity to thank those who helped make this possible.

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Writing my thesis is not an easy task, as English is not my first language. I had to endure many edits from the Naval Postgraduate School writing coaches. Thank you to Noel Yucuis, my writing coach, for her continued support to help me improve my writing style. Her knowledge will be ingrained in me throughout my professional career.

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I. INTRODUCTION

A. PURPOSE

In February 2013, the U.S. Department of Defense (DOD) and U.S. Department of Veterans Affairs (VA) ended their partnership in developing a joint electronic health record (EHR) that would allow for interoperability of data between the two departments. According to the U.S. Government Accountability Office (2014), the abandoned project wasted four years and roughly $1 billion between the DOD and VA. In July 2015, the DOD announced it had purchased a new EHR system. According Garamone, the program management office (PMO) responsible for the acquisition of the new system acquired a commercial product for $4.3 billion in only two years. The contract award of the new EHR system was on schedule and below cost (2015).

The purpose of this study is to examine why the DOD has succeeded in acquiring its most recent enterprise EHR system in record time at a significant cost savings when the previous attempts had failed.

B. OVERVIEW

The DOD has a long history of attempting to acquire an EHR for the longitudinal storage and access of healthcare data for active duty service members and their dependents. In the 1980s, the DOD implemented its first EHR, the Composite Health Care System (CHCS), which initially achieved success. However, future attempts to upgrade the CHCS system resulted in numerous acquisition failures (Government Accountability Office [GAO], 2002).

Since the CHCS, several attempts to acquire and modernize the DOD's EHR have been plagued with cost over-runs and delays (GAO, 2010). Several reports by the Government Accountability Office (GAO) reveal previous EHR acquisitions were impacted by poor project planning, management weaknesses, lack of governance, inadequate accountability, and poor oversight, which cost taxpayers billions over the span of 10 to 15 years (GAO, 2010).

In July 2015, the Program Executive Office (PEO) of the Defense Health Management Systems (DHMS) awarded a $4.3 billion contract to purchase a commercial off-the-shelf (COTS) EHR. The Defense Healthcare Management System Modernization (DHMSM) program did not incur protests from the competition and was able to reduce the cost from an estimated $13 billion to an actual cost of $8.3 billion for the estimated 10-year life-cycle of the implementation (Garamone, 2015). It is unclear specifically what the PEO DHMS (hereafter referred to as PEO) did to achieve this success.

C. RESEARCH QUESTIONS

This research examines how the DOD's PEO and DHMSM program succeeded in successfully awarding a multi-billion-dollar contract for a DOD electronic health record when previous attempts to acquire an EHR had failed.

Related research questions include the following:

- What were the key reasons for the failures of previous enterprise EHR programs within the DOD?
- What obstacles and risks did the program office face when implementing the new system?
- What acquisition and managerial strategies directly led to success?
- What can current program managers of major software acquisitions learn from the DHMSM program?

D. PROJECT OBJECTIVES AND SCOPE

The primary objective of this research is to investigate the key reasons why the DOD has succeeded in acquiring its most recent enterprise EHR in record time and at a significant cost savings. More specifically, this study focuses on events from the PEO and the DHMSM program office from its creation in June 2013 to the new contract award in July 2015. A secondary objective is to explore how and why previous attempts by the DOD to acquire an EHR failed to achieve the same success. A final goal is to provide feedback and proposals for improvements to the DOD's acquisition framework to benefit other major acquisition programs.

This research examines the acquisition phase for the programs in question. This research does not explore the implementation or deployment of the systems. In Chapter II, the costs and other implementation concerns are documented for each previous DOD EHR program. This is to compare the relative effectiveness of their corresponding acquisition processes. This research does not address any future activities or implementation plans from the PEO or the DHMSM program management offices.

E. METHODOLOGY

This study used interviews with key people from the PEO and the DHMSM program office. These people had direct experience with and decision authority in the program. The interview format enabled each person to tell his or her story directly and in detail, and by integrating the stories of multiple key people, this research was able to weave together a rich and coherent understanding and set of lessons learned. From the PEO office, two executives were interviewed. From the DHMSM program, three program managers were interviewed, and within the PEO and DHMSM program, four key managers were interviewed.

This intent of this section is to show the research organization and procedures.

1. Subjects

Each interview subject was selected based on his or her position and influence in the program. With the support of co-advisor Mark Krause, who is familiar with the program office and personnel, a cohort of 12 individuals was identified as possible research subjects. A total of nine subjects volunteered to participate in the research. When the first nine subjects were selected, the researcher did not pursue or consider any additional research candidates. Research participants were checked by the student researcher against the PEO and DHMSM organizational charts for their positions and roles during the timeframe in question. The researcher also submitted the list of potential participants to Mark Krause for approval before providing the research candidate a consent form.

2. Consent

All research subjects were provided a consent form prior to their participation in the research. The researcher requested that the subjects read and understand the research consent process prior to signing the form. If the subjects agreed to the conditions of the research, they signed and dated the consent form and returned it to the researcher.

3. Interview Procedures

The subjects were asked to answer in detail five questions based on their experiences or observations during the selected timeframe at the PEO or the DHMSM. Interviews lasted 30 minutes or less and were conducted either face-to-face, over the telephone, or via email.

4. Privacy

The Institutional Review Board (IRB) at the Naval Postgraduate School (NPS) required all subjects to be de-identified after the interview to protect their privacy. During the writing process, the research subjects are referenced with pseudonyms according to the positions they held during the selected timeframe. Examples include program executive 1, program manager 1, and manager 1.

5. Interview Questions

The interview questions were derived from the research questions:

1. Were you involved in supporting any previous DOD EHR related programs? What do you believe were some of the key reasons for the failure of these past EHR programs?
2. What were the key obstacles and risks faced by PEO DHMS and the DHMSM PMO at the beginning of the DHMSM program?
3. What major acquisition strategies were implemented to overcome these obstacles and risks?
4. How would you describe the managerial strategies of PEO DHMS and the DHMSM PMO, and how did they contribute to the success of the DHMSM program?

5. Based on your experience as a member of the PEO DHMS team, what are the key lessons learned and advice you can share that can benefit a DOD PM of other major software acquisition programs?

F. RESEARCH BENEFITS

The examination of the current PEO and DHMSM program provides a unique academic opportunity for learning how organizational behavior affects large DOD acquisition purchases. In addition, the lessons learned from a successful program can be used to streamline other major DOD acquisition projects and help support other federal agencies. When the DOD has the opportunity to implement lessons learned, it can be a better steward of the American taxpayers' money, provide better services for military members and their dependents, and most important, potentially save lives.

G. ORGANIZATION OF RESEARCH

Chapter II provides a history of the electronic health record in the United States, a review of the DOD's previous EHR acquisitions, as well as literature documenting implementation barriers and lesson learned. Chapter III presents the data from the research subjects' interviews, and Chapter IV provides an analysis of the findings. Finally, Chapter V presents the researcher's conclusions and suggests future research opportunities.

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II. LITERATURE REVIEW

This chapter includes a brief history of the electronic health record (EHR) and recent legislative developments. In addition, it discusses the history of the DOD EHR, as well as acquisitions and implementation failures. Moreover, it details the failed attempt of the DOD and VA to jointly build an EHR. This chapter also illuminates the challenges of other EHR implementation from around the world. Finally, the organizational and reporting structures of the Program Executive Office (PEO) are discussed. The literature review serves as a basis to understand what led to obstacles for the PEO and DHMSM.

A. BACKGROUND

In April 2004, President George W. Bush announced his goal that every American have an electronic health record by 2014 (White House, n.d.). He urged coordination between public and private sectors to accelerate adoption of health information technology. In 2009, President Barack Obama signed the Health Information Technology for Economic and Clinical Health Act, also known as the "HITECH Act," with the goals of advancing the meaningful use of health information technology (HIT), improving the quality of care, and supporting the further development of EHRs. In addition to meaningful use, the act incentivized organizations that took on the risk of building an EHR (Centers for Disease Control and Prevention, 2016). According to Tripathi (2012), the HITECH Act helped create commonality in basic EHR functions, which propelled industry to drive the health information infrastructure.

1. History of Electronic Health Record

According to Ayatollahi, Mirani, and Haghani (2014), "EHR system is an information system that helps collect the health information of individuals from birth to death and provide real-time patient health records to support clinicians in decision making." The main goal of implementing an EHR is to improve the quality of care by reducing medical errors by removing paper medical records and by increasing communication, data collection, and information sharing among health-care providers (Ayatollahi, Mirani & Haghani, 2014).

Prior to the 1960s, medical documentation was primarily paper based. During the 1960s, electronic systems began to transform paper-based medical records into EHRs. The first generation held basic information such as the patient's name, address, date of birth, social security number, and insurance information in a computer terminal (Egyhazy & Mukherji, 2004). Egyhazy and Mukherji (2004) explained that these systems were dormant and not user friendly. The information was not interoperable with other systems. Another difficulty came in that, in order to access information, the user had to access the computer in a fixed location. Advances in networking infrastructure that made it possible to access a patient's medical information from other computer platforms came in the 1970s and 1980s (Egyhazy & Mukherji, 2004). This led to the development of the DOD's first EHR system, the Composite Health Care System (CHCS) in 1985.

2. Military Electronic Health Record

An EHR can play a vital role in the management of care received by members and their dependents over long periods of time. Within the military, a member's health record is his or her living document from first entry into military services to veteran status. The electronic record must be available to health-care providers from multiple military treatment facilities in the continental United States (CONUS), outside continental United States (OCONUS or overseas), and in operational environments (Government Accountability Office [GAO], 2014). The large scale and required interoperability creates a challenging objective for DOD and increases risk for health-care operations.

According to the Military Health System (2016a.), the DOD's "EHR is used by more than 100,000 medical clinicians at military hospitals and clinics worldwide." This EHR is used by the military's medical community to capture, manage, and share data on care provided in garrison and on the battlefield (Military Health System [MHS], 2016a). In today's military environment, there are two primary EHR systems in use: the Composite Health Care System (CHCS) and the Armed Forces Health Longitudinal Technology Application (AHLTA). Both systems are enterprise-wide information-management systems that provide secure access to health care records of active duty service members, retirees, and beneficiaries (MHS, 2016a). Both systems are explained further in subsequent sections.

The U.S. Department of Veterans Affairs (VA) uses an internally developed EHR, commonly known as the "best-of-breed" system. The program is called the Veterans Information Systems and Technology Architecture (VISTA). It provides an integrated inpatient, outpatient, and administrative functions within the EHR. VISTA supports over 1200 healthcare sites, and it is one of the largest networks in the United States. It provides care to over eight million veterans, 163 hospitals, and 800 clinics through the United States (Department of Veterans Affairs [VA], n.d.).

B. HISTORY OF DOD EHR

This section goes into a brief history of the previous DOD EHR acquisitions.

1. Composite Health Care System

In May 1985, the DOD tasked the assistant secretary of defense for health affairs to acquire, implement, and operate a health care computer system. The total estimated cost was between $800 million and $1.1 billion, and the plan called to deploy CHCS to 167 military hospitals and 577 clinics between 1987 and 1995 (GAO, 1986).

During the acquisition of CHCS, numerous errors caused delays in system development contracting. First, the DOD miscommunicated with some vendors and allowed for unacceptable proposals to continue with contract actions when they should have been removed early in process, which increased costs and delayed the schedule. Second, the DOD's disorganization with the industry proposals caused many proposals to go unreviewed (GAO, 1987). Third, the DOD failed to document previous discussions with industry that led to prior contract agreements. Finally, the DOD did not consider all cost factors at the beginning of the project; therefore, costs increased by $7 million when new proposals were added following discussions with industry (GAO, 1987). Overall, the CHCS system achieved what it was developed to do: provide electronic storage for service members' health information.

2. Composite Health Care System II

In 1997, in an effort to improve the CHCS program, the Office of the Assistant Secretary of Defense for Health Affairs (ASD [HA]) directed the acquisition of a new

system to replace the legacy system. The new system was named the Composite Health Care System II, later known as the Armed Forces Health Longitudinal Technology Application (AHLTA). AHLTA was developed to address the limitations of the CHCS system. According to Egyhazy and Mukherji (2004), a major limitation was the program language used to develop the CHCS system. It was created with Massachusetts General Hospital Utility Multi-Programming System (MUMPS) programming language that did not allow for other modern programming languages to edit the code. Second, due to its unique programming language, the DOD lacked the ability to contract for commercial venders to train, maintain and evolve the system.

The AHLTA system was developed differently from CHCS. The plan was to create an architecture with highly complex automation of systems, so AHLTA would comprise many other independent systems (Egyhazy and Mukherji, 2004). The acquisition timeframe was expected to last 18 years from fiscal year (FY) 1997 to FY2014 (GAO, 2002). According to a report by the DOD's Inspector General Report (DODIG, 2006), AHLTA's "full operational capability had been delayed by four years because of performance issues." In addition, the dental module had to be redesigned to meet clinical needs. According to DODIG (2006), the system's life cycle cost increased $1 billion (from $4.023 to $5.019 billion), and the program was extended for another three years. In 2012, the DOD cancelled all remaining updates to AHLTA.

3. EHR Way Ahead

According to the GAO, the DOD had obligated approximately $2 billion over 13 years to AHLTA, the system that had not fully met its mission goals (GAO, 2002). The report mentioned that, even though the DOD had delivered many outpatient modules, many other capabilities originally planned for deliver had been scaled back. In addition, users frequently complained about AHLTA's significant performance issues. To address these issues, the DOD recommended purchasing a new commercial system named "EHR Way Ahead." Subsequently, the DOD budgeted $302 million for the EHR Way Ahead initiative (GAO, 2010). The DOD's goal for this system was to be the "department's comprehensive, real-time health record for service members and their families" (GAO, 2014).

4. Integrated Electronic Health Record

During the same time the DOD was developing its plans for the EHR Way Ahead program, the VA also attempted to modernize its VISTA electronic health system. The VA had spent roughly $600 million from 2001 to 2007 on projects to modernize VISTA; however, the department had estimated that the new cost would be closer to $11 billion with a completion date of 2018. The VA terminated the VISTA modernization effort in 2010. In 2010, both DOD and VA secretaries signed an executive agreement to work together, and, in 2011, a new charter was signed to start the Integrated Electronic Health Record (iEHR) effort. This combined effort was expected to enable the VA and DOD to align resources and investments with common business needs that would reduce cost, increase efficiencies, and create an interoperable health information system (GAO, 2014).

After years of developing iEHR, the DOD and VA announced the decision to abandon the effort in February 2013. This decision resulted from concerns over the program facing challenging deadlines, high costs, and an extended timeline to deliver capabilities. Based on these assessments, both the "DOD and VA would rely on separate systems to achieve an interoperable EHR" (GAO, 2014). Possible reasons for the failures of this program are discussed in Chapters III and IV, in which program managers share opinions on why this program failed.

C. BARRIERS TO IMPLEMENTING AN ELECTRONIC HEALTH RECORD

Several studies have shown the complexity in adopting and implementing an EHR system despite the potential benefits. This literature review suggests numerous organizations that have attempted EHR implementation have encountered road blocks during the process. These studies were conducted in the United States and other countries including China, Australia, Iran, and the United Kingdom.

Research by Standing and Cripps (2015) suggested that EHR implementation downfalls are usually a result of complexities in the project scope, resources, decision-making authority, level of accountability, expectation by stakeholders, determination of staff, needs of the clients, and/or level of resistance. In a different study, researchers

Cucciniello, Lapsley, Nasi, and Pagliari (2015) documented managerial reasons that hinder EHR implementation. The researchers interviewed numerous clinicians and documented that failed relationships among stakeholders, patients, and clinicians can lead to potential barriers. In addition, the adoption of an EHR that affects the organization's structure, culture, work processes, and communication channels will likely face resistance (Cucciniello et al., 2015). In a study of two EHR implementation projects in China, Gao, Xu, Sorwar, and Croll (2013) identified that a lack of governance, interoperability, legislation, and skilled professionals all contributed to challenges. The researchers agreed that a strong managerial strategy is critical for a successful project.

One of the insights from Gao et al. (2013) and Cucciniello et al. (2015) was that people and their relationships are vital to a successful EHR implementation strategy. According to Standing and Cripp, the critical success factors that led a successful short-term EHR implementation rely on system focus rather than strategic focus. In other words, "a passionate and highly committed team can also make a big difference" in the success of the project (2015, p. 83).

D. PEO DEFENSE HEALTH MANAGEMENT SYSTEM: NEW PROGRAM OFFICE

This section covers the development of the PEO and DHMSM program offices and its reporting chain.

1. Office of the Under Secretary of Defense for Acquisition, Technology and Logistics

The Office of the Under Secretary of Defense for Acquisition, Technology and Logistics (OUSD [AT&L]) within the DOD oversees acquisitions, research and development, advanced technology, and logistics. Figure 1 provides a representation of the undersecretaries to the secretary of defense. Overall, the USD (AT&L) supervises all DOD acquisition projects and establishes policies for the procurement of goods and services, research and development, testing and contract administration (OUSD [AT&L], n. d.).

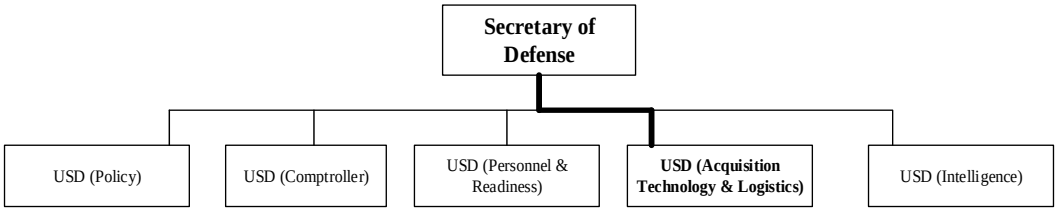

Figure 1. Organization Chart for the Office of the Secretary of Defense Principal Staff Assistants. Adapted from Deputy Chief Management Officer (2013).

2. New Program Executive and Program Management Office

With the shift in priorities after the iEHR project, both the DOD and VA announced they would pursue separate paths to obtain and modernize their respective EHRs. This led to the creation of the Program Executive Office (PEO)'s Defense Health Management Systems (DHMS). The PEO manages four joint programs under its portfolio. The PEO mission is to efficiently improve healthcare for active duty military members, veterans, and beneficiaries (Miller, 2015). One of its main missions is to modernize the electronic health record for the military health system (MHS). In June 2013, the PEO established the Defense Healthcare Management System Modernization (DHMSM) program office. The DHMSM priorities have been to select and award a contract for a state-of-the-art EHR that will replace the legacy CHCS and AHLTA systems. The organizational chart for the PEO's DHMS is provided in Figure 2.

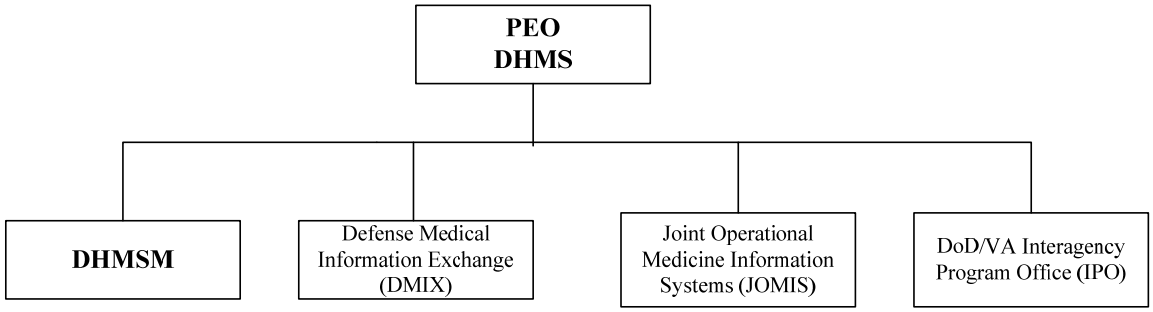

Figure 2. The PEO's DHMS Organizational Chart. Adapted from MHS (2016c).

3. Defense Healthcare Management System Modernization

With the establishment of the DHMSM, the program office has a clear mission to acquire, integrate, test, and deploy a modernized EHR system. In addition, the program will unify and increase accessibility of evidenced based healthcare delivery and decision making to the DOD MHS. The DHMSM's organizational chart is shown in Figure 3. DHMSM has one program manager and a deputy program manager. In addition, it has aligned critical departments (assistant program managers) directly under the program manager.

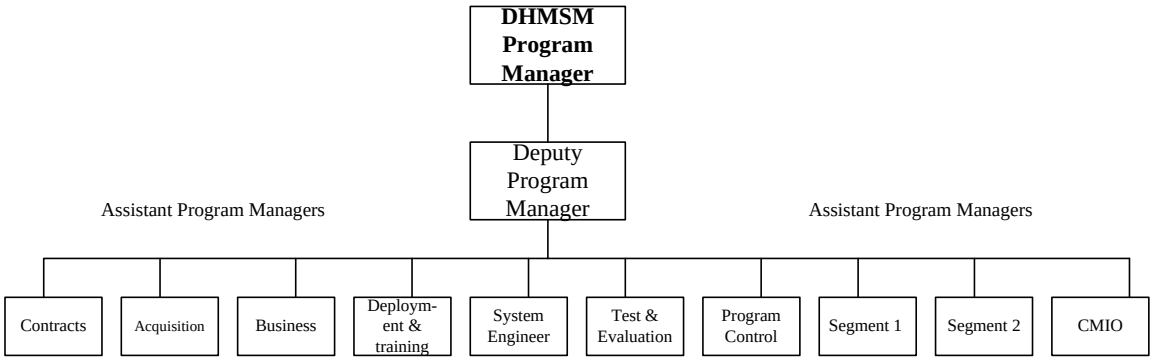

Figure 3. The DHMSM Organization Structure. Adapted from MHS (2014).

4. Reporting Chain

In 1986, the position of program executive officer was established; he or she will lead the PEO program office. A PEO is typically an executive office that oversees multiple program offices within the unique service component. Program offices have a strict reporting requirement to the PEO. Then, the PEO reports to the service component acquisition executives, as depicted in Figure 4. According to the Defense Acquisition University (2013b), this structure provides a clear line of authority for any high-cost and high-interest programs commonly referred to as Acquisition Category (ACAT) III, which referred to projects valued less than $185 million, ACAT II ($835 million or more), or ACAT I (projects of $2.79 billion or more).

In 2013, as the planning for the creation of the PEO program office was underway, the reporting chain to USD (AT&L) was modified. PEO no longer reports to a service component acquisition executive; the director of the program now reports directly to USD (AT&L), as shown in Figure 5. No other PEO program in the DOD or component services has this waver approved to directly report to the USD (AT&L).

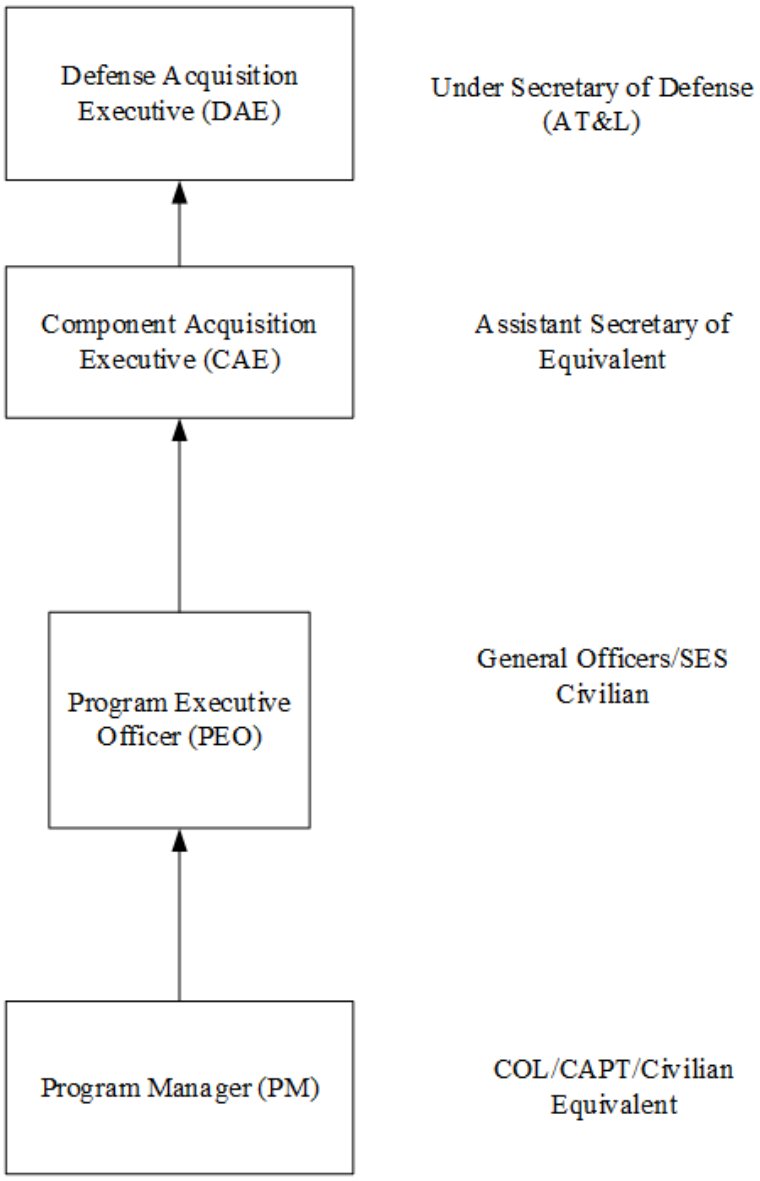

Figure 4. Typical Reporting Chain for Acquisition Programs. Adapted from Defense Acquisition University (2013a).

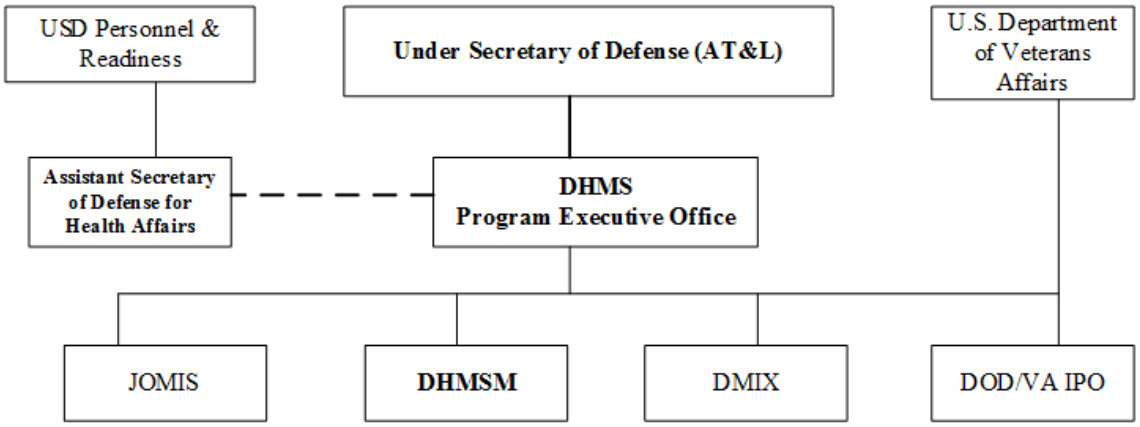

Figure 5. Reporting Chain of Command for PEO to USD (AT&L). Adapted from MHS (2016b).

5. New Contract Award

In July 2015, the PEO and the DHMSM program office awarded a $4.1 billion contract to purchase a commercial-off-the-shelf (COTS) EHR from industry. The PEO streamlined the acquisition process to select and procure a state-of-the-art EHR in record time with no protests driving down the expected life cycle cost from $13 billion to $8.3 billion. This thesis analyzes the acquisition strategy and management oversight used by the PEO to achieve results that surpassed all previous DOD acquisition attempts for an EHR (Mazmanian, 2015).

III. FINDINGS

The findings presented in this chapter are the result of data collected by the researcher over four weeks in May and June 2016. The data represented in this chapter are the researcher's summary of the subject interviews and an analysis of commonalities and differences among the responses.

A. ORGANIZATION OF FINDINGS

At the conclusion of each interview, the student researcher transcribed the subject's words into an electronic format, which was used to visually organize commonalities and differences in the responses. The student researcher has grouped responses in this chapter based on the individual's managerial category: executive, program manager (PM), or manager. The number of subjects by position in the hierarchy is tallied in Table 1. Hereafter, descriptive pseudonyms are used to represent each subject's position.

Table 1. Subject Tally by Position

Position	Number of Subjects
Executive	2
Program Manager	3
Manager	4

Having three levels of the PEO/DHMSM hierarchy is important for determining successful management and acquisition strategies. Each level brings a different view of what is important or what challenges the program faced. Identifying commonalities and differences among levels of management should help reveal a set of best practices for future acquisitions of this size.

B. DATA COLLECTION

In this section, the commonalities are identified among the subjects' responses during the interviews. Responses are compiled into tables, and the frequency of answers are tallied according to the individuals' positions.

1. Question 1a: Were You Involved in Supporting Any Previous DOD EHR-Related Programs?

Question 1 had two components. The first question asked whether the member was involved in any of the DOD's previous electronic health record (EHR) system acquisitions or implementations. Table 2 shows the response breakdown by member and level.

Table 2. Question 1, Part A—Were You Involved in Supporting Any Previous DOD EHR-Related Programs?

	Executive	PM	Manager	TOTAL
Yes	1	2	2	5
No	1	1	2	4
TOTAL	2	3	4	

2. Question 1b: What Do You Believe Were Some of the Key Reasons for the Failure of These Past EHR Programs?

Part two of Question 1 asked the subjects to elaborate on their opinions and/or experiences surrounding the DOD's failed EHR projects. The researcher recorded the responses from subjects who were involved in at least one previous DOD EHR project (see Table 3) and those who were not involved but gave their opinions anyway (see Table 4).

Table 3. Question 1, Part B—What Do You Believe Were Some of the Key Reasons for the Failure of These Past EHR Programs? "Yes" Respondents

Executive	Poor collaboration across organizations
PM	Attempt to develop or modify a product
	Unrealistic project scope
	Problematic requirements
Manager	Different internal processes
	Lack of commitment among both agencies (DOD and VA)
	Too many stakeholders, unwillingness to commit on a way forward
	Lack of single authoritative source
	Long lead times
	Multiple governance layers
	Lack of standard framework for data sharing
	Differences in organizational functions

Table 4. Question 1, Part B—What Do You Believe Were Some of the Key Reasons for the Failure of These Past EHR Programs? "No" Respondents

Executive	Lack of stakeholder buy-in from users
	Lack of understanding of requirements
	Differences in organizational cultures
PM	Lack of acquisition professionals to purchase product
	Lack of buy-in from stakeholders
	Unsolidified program milestones
Manager	Lack of commitment
	Program focus on home-grown solutions

3. Question 2: What Were the Key Obstacles and Risks Faced by the PEO DHMS and the DHMSM PMO at the Beginning of the DHMSM Program?

Question 2 asked the subjects to identify any possible obstacles and/or risks that hindered the success of the program office. The researcher attempted to highlight the commonalities and differences in the subjects' responses (see Table 5).

Table 5. Question 2—What Were the Key Obstacles and Risks Faced by the PEO DHMS and the DHMSM PMO at the Beginning of the DHMSM Program?

Executive	Lack of physical organization
	Lack of right people for the job
	Conflicting definitions of success or acquisition strategy
	Communication with U.S. Congress (politics)
	Communications with industry
	Differences in system requirements
	External politics from past EHR failures
PM	Bad press from U.S. Congress
	Lack of governance internal to the program
	Lack of requirements
	Establishment of program office
	Lack of funding
	Confusion over management structure
	Previous EHR failures
	Top-heavy bureaucracy
	Service conflict (Navy, Army, USMC, Air Force)
	Local command governance
	Unrealistic requirements
Manager	Lack of formal requirements
	Lack of empowered central leadership
	Aggressive schedule constraints
	Collaboration across multiple organizations
	Negative perceptions from previous EHR failure
	Lack of staffing plans
	Lack of credible cost estimates
	Inability to secure funding
	Lack of formal requirements

4. Question 3: What Major Acquisition Strategies Were Implemented to Overcome These Obstacles and Risks?

Question 3 is a continuation of the previous question. It asked the subjects to identify actual strategies used that positively affected the program office and led to the successful award of the new EHR. The subjects' responses are documented in Table 6. Question 3 leads to a macro view focused on the external factors that affected the two program offices.

Table 6. Question 3—What Major Acquisition Strategies Were Implemented to Overcome These Obstacles and Risks?

Executive	Used competition effectively
	Engaged industry early and often
	Ensured requirements were right
	Developed a tailored and flexible contract strategy
	Used multiple industry days to communicate to industry
	Released requests for information (RFIs) before finalization
PM	Tailored acquisition documents to streamline approval process
	Reported to USD (AT&L)
	Leveraged lessons learned from commercial industry
	Created no artificial requirements
	Focused on commonalities of a uniform health care system
	Allowed for an aggressive strategy
	Emphasized streamlined processes
Manager	Rebuilt broken relationships
	Overcame staffing obstacles by outsourcing from DHA and Space and Naval Warfare Systems Command (SPAWAR)
	Reported directly to USD (AT&L)
	Challenged the status quo
	Tailored the acquisition plan
	Developed requirements through draft RFPs
	Partnered with industry

5. Question 4: How Would You Describe the Managerial Strategies of the PEO DHMS and the DHMSM PMO, and How Did They Contribute to the Success of the DHMSM Program?

Question 4 asked the subjects to identify specific management strategies used in either program office. In contrast to question 3, this question offers a micro view focused on the management strategy within the two groups. The subjects' responses are documented in Table 7.

Table 7. Question 4—How Would You Describe the Managerial Strategies of the PEO DHMS and the DHMSM PMO, and How Did They Contribute to the Success of the DHMSM Program?

Executive	Communicated with all levels
	Used a multi-dispensary team
	Brought in acquisition leadership
	Allowed industry more time to plan before final RFP
PM	Flattened organization; reduced layers and bureaucracy
	Developed meetings with a purpose
	Created relationships with requirements community
	Developed static requirements
	Leveraged previous market research
	Used complete transparency
	Used aggressive scheduling with milestones
	Published acquisition plans
	Met with industry often
	Adopted a "hands-on" leadership approach
	Forced people to make decisions
	Engaged the functional community directly
Manager	Released information early
	Identified the right skill sets and staff needed
	Ensured the right community was part of the functional group
	Employed leadership with COTS acquisition experience

	Brought in highly motivated staff
	Used a tailored acquisition process
	Established authority to proceed

6. Question 5: Based on Your Experience as a Member of the PEO DHMS Team, What Are the Key Lessons Learned and Advice You Can Share That Can Benefit DOD PM of Other Major Software Acquisition Programs?

Question 5 asked the subjects' opinions on future program-office strategies from which other large acquisition programs can learn. The subjects' responses are documented in Table 8.

Table 8. Question 5—Based on Your Experience as a Member of the PEO DHMS Team, What Are the Key Lessons Learned and Advice You Can Share That Can Benefit DOD PM of Other Major Software Acquisition Programs?

Executive	Under-promise and over-deliver
	Communicate
	Define success/acquisition strategy
	Adopt the enterprise system
	Interact early with industry
	Employ change-management and training early
PM	Collect true requirements
	Develop a solid acquisition strategy
	Adopt a COTS product with commercial capability
	Allow enough space to leverage industry
	Be descriptive in requirements
	Have good decisive and leadership
	Stay within organizational functions
	Involve functional (medical) community
	Force functional community to define requirements
	Select leaders who are not tied to the medical community
	Set-up a healthcare systems and material command (SYSCOM)

	Solidify the true requirements
	Leverage commonality—don't highlight differences
Manager	Take risks
	Streamline the acquisition process
	Focus on teamwork; communicate
	Establish realistic goals and timelines
	Create positive working environments that motivate employees
	Have a clear understanding of requirements
	Initiate early interactions with industry
	Force organizations to formalize requirements
	Empower a central leader to make decisions for the health-care enterprise
	Remove customers from the acquisition decision; leave business decisions to acquisition people

C. SUMMARY

Responses from Question 1 highlight the cultural differences between the DOD and the VA, which led to the iEHR failure to mature to a program of record. Responses from Question 2 expanded the uncertainties in standing up a program office. The concerns expressed were related to external pressures placed on the program office. On the other hand, in answers to Questions 3 and 4, it appears that the program office moved from a state of uncertainty to a determined, mission-focused organization. The management strategy and requirement gathering were important during this phase. Question 5 yielded some unique suggestions for improving future acquisitions but reiterated the experiences from Questions 3 and 4. Chapter IV further analyzes the data presented in Chapter III.

IV. ANALYSIS AND DISCUSSION

A. ANALYSIS

The success of the Defense Healthcare Management System Modernization (DHMSM) and Program Executive Office (PEO) is broken down into five strategic improvements. These improvements directly led to the successful planning and acquisition of the DOD's EHR system in July 2015. These five improvements include the following: true requirements, the program governance structure, hands-on management, external human resources, and the separation between acquisition and medical communities. In this section, we use the subjects' interview responses as discussion points to the five strategic improvements. These strategies are unique to the PEO and DHMSM programs.

1. Requirement Gathering

In software engineering, requirement gathering deals with establishing the needs of the stakeholders that the software fulfills. During the acquisition of the new EHR, the acquisition team was in charge of purchasing COTS software, but the medical community was not part of this team. It maintained a separate community, known as a "functional community." The functional community provided the acquisition team with information on medical necessities for the new software to perform.

a. True Requirements

Since the new EHR was a COTS product, it was critical that the correct requirements were collected prior to the decision to purchase the software. Program manager 2, who observed the DHMSM program, expressed the need for the medical community to clearly define the EHR's requirements: "They really need to be forced to define the requirements. The tighter you get, the better you'll be able to buy it for them. The better the requirements, the better the acquisition will be" (personal communication, May 27, 2016). Words from program manager 2 support the finding that a partnership between the acquisition and functional communities were critical for success. The

functional community performs that first step by carefully selecting the specific tasks clinical professionals need from the EHR to provide medical care for patients. The acquisition community takes those specific tasks and attempts to purchase a product that meets the needs of the functional community.

Specific requirements are necessary to purchase a software product; however, sometimes having too many requirements causes delays or excess costs when the software is purchased. This is the importance of having *true requirements* provided by the functional community. Medical professionals have the tendency to add requirements based on special medical processes, which add to the complexity of an EHR. Program manager 1 suggested, "We should not create artificial requirements based on the environment we operate in. We should make sure that the requirements are solidified as true requirements and differences in a way … solutions are presented" (personal communication, June 10, 2016). Program manager 1 echoes the findings from the survey that the medical community needs to provide the acquisition community a true set of requirements. In doing so, the acquisition community better negotiated with industry to purchase a cost-efficient product.

Medical fields are dynamic; they evolve continually. The nature of medicine creates a challenge when a group of clinical professionals are tasked with developing requirements for an EHR. The requirements have to be flexible to allow for changes in medicine and the specifics of medical practice. However, the acquisition community needs fixed requirements. Otherwise, flexibility or indecision results in lengthy, costly evaluation cycles. Program manager 1 commented on what acquisition teams do to work around this problem:

> Acquisitions are static; the environments that they intend to support are dynamic. So you have to build contract vehicles that are flexible and evolving around it. We know that the requirements will not be static at the time we buy the product. We have to present a static requirement with the framework of the contract with the ability to be flexible as the requirement changes. That's a fine line that not everyone understands. (Personal communication, June 10, 2016)

Even though the acquisition process and the requirements need to be static; the contract can be written to allow flexibility. In the new EHR contract, additional line items allowed for future modifications.

b. Partnership with Industry

During the development of the EHR's capabilities, the functional community continued to disagree over what true requirements should be used. The program office successfully used industry to help fill in the gaps for the medical community. Manager 1, who was involved with the EHR acquisition selection process, discussed using industry to fill the requirements gap to support the functional community:

> I mentioned that they [medical community] did not have well-articulated formal requirements, but what the program office did was they partnered with industry and utilized an iterative draft RFP process to help articulate requirements that industry can answer. It was brilliant because the services couldn't really say what they wanted, but they had an idea [of] what they wanted. (Personal communication, May 26, 2016)

The DHMSM program office frequently used industry as a partner to build its requirements. What DHMSM did was unique in that it released to industry a request for information (RFI) early during the planning process. Even though the RFI was incomplete, meaning that the program office did not fully know its final requirements, the office released it to industry for feedback. The DHMSM program office continued to release many other RFIs during the planning phase. This led to the development of a rock solid request for proposal (RFP) that industry could fully support. Program executive 2 said this regarding the RFI process:

> In the past, we in government waited until we had the RFP completed before forwarding to industry. This time, we took our first cut, which still needed work but we shared it with industry. We got their feedback and continued to get internal feedback to make the RFP better. I think that's a big lesson learned: even though it's not ready for prime time, share that RFP early. (Personal communication, May 16, 2016)

Sharing the RFP early and often allowed the program office to increase visibility with industry and help build the right requirements for the EHR from commercial lessons learned. Both executives and managers expressed that developing requirements to

populate an RFI was an obstacle, as shown in Table 5. However, as one program executive mentioned in Table 7, the use of industry early to develop the requirements was noted as a best practice that helped the government receive the best bids at very good prices.

2. Governance

As discussed in Chapter I, no other program executive office has been governed like the PEO DHMS. The PEO was given a direct-reporting status to the USD (AT&L), as represented in Chapter I, Figure 5. Normally, a PEO falls under a major command to govern its actions. One such organization is the Defense Health Agency (DHA), which reports directly to the secretary of defense. Because the program originated in Congress, it was high profile, and Congress controlled the cost. Therefore, selecting the right leadership and subordinate was key to governance. Manager 2, a seasoned PEO administrator, described how USD (AT&L), the head of PEO DHMS, was crucial to success:

> The years of acquisition experience enabled leadership to identify the process inherently required for a successful COTS acquisition. They identified the right skill sets and staff needed to meet the challenges of developing an RFP that clearly addressed and identified the requirements … for a vendor to provide a COTS solution. Additionally, through their leadership, they ensured the right communities were part of the evaluation process to ensure the functional requirements would be met. In addition to their leadership, folks were highly motivated to support the mission of obtaining a cradle-to-grave EHR for our service members, families, and beneficiaries. (Personal communication, May 25, 2016)

One smart decision leads to others. U.S. Congress mandated that the secretary of defense modernize the MHS's electronic health record. Therefore, the DOD created a structure for the PEO to align directly under the USD (AT&L). The PEO then created the DHMSM program office to directly report to it. Therefore, the PEO had only one reporting chain, and DHMSM had two reporting chains. It was unprecedented for an ACAT I program of its size to have minimal governing layers. PEO manager 2 commented on the benefits of directly reporting to USD (AT&L): "Having an authority figure such as the secretary of defense or USD (AT&L) … influences decisions from

services' figures that keep your program moving. The petty bureaucratic fights can hold down progress" (personal communication, May 31, 2016). This hierarchy was vital as all services—Army, Navy, Marine Corps, and Air Force—report directly to the USD (AT&L) for their procurements. The PEO can force the services to work together and come to terms because the USD (AT&L) controls funding and procurement. This resolved any disagreement among the services and kept the project moving forward. Program manager 1 emphasized how this tailored acquisition process reduced bureaucracy:

> The managerial strategy was to flatten out the organization. There were too many layers. When you are in a compressed time line to deliver, you can't have a lot of bureaucracy at lower levels where decisions are occurring, so USD (AT&L) fosters that. Access to leaders that make decisions is imperative. (Personal communication, June 10, 2016).

This program manager noticed the difference when he had direct access to decisions to keep the program moving. As shown in Table 7, both program managers and managers mentioned that a streamlined reporting chain helped them obtain decisions from leadership sooner. Typically, the governance of the services and services' medical departments can hinder the progress. However, having the direct support of the PEO and USD (AT&L) helped.

3. Management Styles

The management style of the leaders from the PEO and DHMSM was another important factor for the success during the new EHR acquisition. The leadership in both program offices was described by those surveyed as very aggressive for results. The PEO and DHMSM felt pressure to deliver a product by a specific date and cost, but one of the risks was the continued indecisiveness of the functional community in laying out requirements. However, program manager 2, who observed the process, mentioned how the aggressive management styles worked in favor of moving the project forward:

> The PEO and DHMSM program managers were very hands-on people. They looked to engage the functional community directly and force people to make decisions and get them on board. They forced people to have discussions on where the fiction points were and to overcome them. You do that by transparency and talking to people. (Personal communication, May 27, 2016)

In addition, the leadership at the PEO maintained a high tempo by holding weekly meetings on various deliverables from the DHMSM program office. This pace ensured that the program office was on target and delivered each milestone on time. Though some might view this style of management as micro-management, it worked.

4. Human Resource Sourcing

Another obstacle that the DHMSM program faced at the beginning of the acquisition process was the creation of a physical office. As the survey noted from the executive, program manager, and manager levels, one consistent concern was the establishment of a program office that would be responsible for purchasing the EHR system (see Table 5). The ability to find the right staffing for the positions at DHMSM proved challenging given the aggressive timeline for the PEO. Manager 2, who was involved with the PEO from the beginning of the program, explained the obstacles faced with the DHMSM program:

> A clear plan for staffing and manning the projects and programs was needed. Then obtaining the right talent, in a timely manner, to execute a plan that is filled with challenges ranging from long hiring times for civilians[.] [There were] service members' rotation schedules and clearly obstacles in being able to accomplish the work. (Personal communication, May 18, 2016)

This manager's worries were legitimate because for the federal government, hiring from the civilian sector could take many months of advertisement, recruitment, and training to get new personnel on board. Given the specific knowledge and skills required for the job and the aggressive acquisition timeline, this would prove a nearly impossible task. These concerns are noted in Table 5, wherein both the executives and program managers showed concern about building a program office from scratch. Manager 2 explained that the "staffing obstacles were overcome with the agreement between DHA

and SPAWAR—allowing the PEO DHMS to hire skilled staff from the working capital funds" (personal communication, May 18, 2016). Essentially, the PEO and DHMSM cleverly borrowed personnel from other program offices and staffed them locally. Even though government contractors could have covered the majority of resource gaps within both organizations, government expertise was critical for leading and holding action accountable, which ultimately led to the success of the EHR system.

5. Maintaining Functional Community Responsibilities

The separation between acquisition and medical community responsibilities was also critical. The DHMSM program was set up with acquisition managers leading and medical professionals providing guidance. This organizational structure was different from previous EHRs, wherein the medical community was closely involved in the acquisition process. The development of the altered organizational structure started with the USD (AT&L) selecting an acquisition professional to lead the PEO program. In turn, the PEO selected another professional with extensive acquisition-purchasing and COTS experience to lead the DHMSM program. Program manager 2 observed how separating the two communities affected the acquisition process positively:

> The leaders selected to lead the acquisition should not be directly tied to the community that they are trying to service. The program manager of DHMSM was not a medical doctor, and PEO was not a medical guy. I'm not a medical guy; I'm an acquisition professional. I have medical people here that can educate me and advise me on what we need the system to do. But I'm not tied to a particular community… [I] wanted to get the best for the government and at a good price. There's no loyalty I feel to a community. Nothing in my past experience influences me in a certain direction. (Personal communication, May 27, 2016)

Program manager 2 echoes the findings from the survey that medical professionals may present a conflict of interest in the acquisition process, as shown in Chapter III, Tables 5, 7, and 8. The goal of the procurement was to purchase a state-of-the-art EHR system at the best price for the government. The individuals best suited to negotiate for the government were those who did not have a conflicting interest in the procurement and understood how the acquisition process works. Medical professionals are not trained to handle large acquisitions, as program manager 1 explained:

> Doctors and nurses are not trained to do acquisitions; their forte is to deliver care to needy patients. You can't treat the acquisition community as if it's not its own area of expertise. You must be an expert in acquisition and contracting to do multi-billion-dollar deals. (Personal communication, June 10, 2016)

The program manager expressed that it took experience and acquired skills to conduct large-scale acquisitions properly. The program manager strongly suggested that the acquisition community is specially trained to manage these type of projects. There is a perception in the medical community that if the acquisition is a medical system they should have a lead in the project. Program manager 1 explained the role of the clinical and acquisition personnel:

> The clinical component is struggling in this area. They got to get an acquisition professional in their portfolios and then allow doctors to practice medicine, which they are allowed to do. The functional piece is the doctors' piece. … The acquisition piece, leave it to the acquisition professional. (Personal communication, June 10, 2016)

The DHMSM program was configured to have two acquisition leaders manage it. The medical component under the chief medical information officer (CMIO) was an assistant program manager to the DHMSM program manager, as shown in Figure 3. The CMIO coordinated information gathering among the functional community to formulate the necessary requirements for the program office. This strategy worked for DHMSM.

B. DISCUSSION

In this section, we revisit and answer the research questions from Chapter I. The interview questions were derived from the main research questions. Data collected from Chapter III help guide the answers to the research questions.

1. What Were the Key Reasons for the Failures of the Previous Enterprise EHR Programs within the DOD?

From the survey, Question 2 presented the research subjects' responses. The responses were based on experiences and/or insider knowledge (see Table 3 and 4). Some of the research cohorts had had numerous experiences with health IT and DOD acquisition projects; therefore, they could speak in detail about the subject.

Program executive 2 suggested that the previous DOD EHR systems were not all failures. The Composite Health Care System (CHCS) and Armed Forces Health Longitudinal Technology Application (AHLTA) programs did not achieve all they set out to do, but the systems did move the military health system toward a functional EHR (personal communication, May 16, 2016). However, the integrated electronic health record (iEHR), which was supposed to encourage the DOD and VA collaboration, failed to achieve its mission. This section discusses the opinions of why the iEHR failed and why VA and DOD decide to go separate directions.

a. Differences in Organizational Culture

Among those interviewed who direct exposure with the previous EHR, experienced had shared that both organizations had difficulty collaborating due to difference in internal process (see Table 3). One of the differences was the inability to decide on system requirements. During this time, the VA wanted to update its homegrown Vista solution while the DOD wanted to purchase a new COTS system. This created problematic requirements, which developed into an unrealistic project scope. In addition, there were many stakeholders from medical communities from both departments who added to the requirements. The iEHR program could not move forward due to the levels of bureaucracy, which created longer than normal lead times.

Argumentatively, the iEHR program was destined to fail due to its size and complexity. The program office and its leadership were not assertive in maintaining control of the complex system; therefore, the program lost track of its goals.

2. What Obstacles and Risks Did the Program Office Face When Implementing the New System?

This section aligned with Question 2, where it asked the research subjects to express their experiences or opinions of what risks DHMSM faced prior to the acquisition and implementation of the new DOD EHR system (see Table 5)

a. Previous Failures

Executives, program managers, and managers all echoed that the iEHR's previous failure had a profound effect during the early stages of the program. The negative publicity received from the iEHR and other past EHR systems had many individuals doubting whether the DOD would be able to procure a new system. The negative publicity affected future funding and working relationships. According to manager 2, the new PEO head worked hard to reestablish trust within the DOD and its stakeholders. The PEO actions allowed the PEO and DHMSM program to get on its way (personal communication, May 25, 2016).

b. Uncertainty

Executives, program managers, and managers all exhibited concerns over the many uncertainties during the creation of the DHMSM program office. The majority of managers' uncertainties were tied to standing up the program office within the aggressive timeline. Many managers noted that staffing, confusion over the management structure, and a lack of formal requirements were major concerns. The executives were overly concerned with the conflicting acquisition strategy and communication with industry, whereas the program managers were concerned about service interactions and the confusion over the management structure.

3. What Acquisition and Managerial Strategies Directly Led to Success?

This section used survey responses from Questions 3 and 4. Most certainly, the tailored acquisition that allowed the PEO to report directly to the USD (AT&L) was a major factor; however, there were other strategies that may have contributed to the success.

a. Industry Communication

Executives, program managers, and managers emphasized the importance of early communication with industry in helping with the requirements collection and development. The DHMSM program used requests for information (RFI) effectively to communicate with industry. A typical program office would spend excess amount of time

to ensure that the RFI would be contain complete and correct information before it is shared with industry. This method can be ineffective, as industry may return the request back to DOD as something impossible to do. Early communication means providing industry limited feedback (requirements) on what they need, then the commercial sector will be able to fill in the blanks on what it can provide to the federal government. The federal government then takes the suggestions by industry and continues to build on its requirements. Having industry tell the government what it can provide early is extremely effective because the government is trying to leverage a COTS product. The government should not develop requirements that industry cannot meet, and early communications helps reduce that risk by allowing the commercial sector do the market research for the DOD.

4. What Can Current Program Managers of Major Software Acquisition Learn from the DHMSM Program?

This section refers to Question 5 from the survey. There were numerous suggestions by the research subjects on possible lessons learned. The commonalities among the executives, program managers, and managers were the early interaction with industry and properly adopting the COTS product. The commonalities between program managers and mangers were decisive leadership, formalize requirements, streamline acquisition process, and separation between acquisition and functional communities.

C. SUMMARY

In summary, the analysis section provided five improvement strategies that were critical to the success of the DHMSM and PEO efforts to procure the DOD's new EHR. The governance structure provided PEO top cover to manage the services' expectations and future funds. Without the support from the USD (AT&L) for the PEO, the program could have fallen behind schedule. The collection of true requirements ensured that the DHMSM program purchased an EHR system that was state-of-the-art and cost effective. Sourcing from other government organizations helped support the PEO and DHMSM programs to ensure the right subject matter experts filled critical resource gaps quickly.

The separation between the acquisition and medical communities ensured that conflicting interests did not add to the bureaucracy and that personnel focused on project objects.

The leaders' management styles allowed all of these strategies to happen. The hands on leadership of the PEO and DHMSM programs ensured that the requirements, resources, and governance were established, functional, and operational. For major information technology (IT) acquisitions, strong, engaged, and aggressive leadership is needed with the addition to political top cover.

This chapter revisited the research subjects' responses from the survey. Failures of a program office generally stem from numerous factors, but the subjects' experiences linked the failure of the iEHR to differences between the two departments' (i.e., the DOD and VA) cultures and the inability for leadership to bring the requirements toward a common goal. The challenges the PEO and DHMSM largely overcame the history of past EHR failures and the negative perspectives of stakeholders. This resulted in many project uncertainties. Overall, the use of industry as a partner helped ensure the program office procured a state-of-the-art system at a very good price for the government.

V. CONCLUSION AND RECOMMENDATIONS

This chapter summarizes the importance of this thesis and discusses the data used to conduct the study. In addition, the chapter contains conclusions drawn from the analysis and discussion in Chapter IV. Finally, the thesis ends with recommendations and suggestions for future studies.

A. CONCLUSION

The information presented in this research can be used as a lesson learned for future large DOD or federal acquisition programs. Moreover, the information collected is extremely valuable to the acquisition community supporting medical systems. Due to the history of the DOD's EHR programs, the data collected in this research can serve as building blocks for improving future medical acquisition processes as well as all major acquisition programs. The ramifications of not implementing these best practices could result in repeating previous failures.

Generally, failure in IT systems is not due to the technology itself; it is due to the inability of the users to train fully and implement the system into their daily work flows (Cripps & Standing, 2015). In program management, the successful acquisition of a system requires motivated leadership and knowledgeable staff members to navigate obstacles effectively and develop management strategies to succeed. In the case of the DOD's EHR system, negative press and congressional mandates had already created an obstacle for the PEO even prior to the start of the program. Decisive leadership understood what it needed to make the process work effectively, and it did something that went against the grain of previous acquisition projects. Implementing a tailored acquisition process for the PEO and DHMSM programs reduced the amount of red tape for critical decisions. Lessons learned from the past ensured that leadership placed the skilled acquisition program-managers needed to lead the procurement and to keep the functional community engaged—while not slowing down the process. Instead of alienating the commercial sector, leadership used industry effectively as a partner. This was shown to be a best practice as the commercial sector gave its input to build the

DOD's EHR, played a part in the process, and equally marketed products. When the contract award was announced, there was no protest from industry, and this is very unusual in a large dollar contract. The following are recommendations drawn from this research for future program offices.

1. Create a Tailored Acquisitions Process

Reduce the amount of red tape for program managers to get critical information approved by the stakeholders. The majority of programs suffer the additional burden of long waiting periods before a key decision can be made. Allow the program manager access to executives who are able to influence the decisions of multiple stakeholders. Streamlining the acquisition process should also include the managers' access to the program managers for decisions as well.

2. Separate Acquisition and Functional Communities

Traditionally, medical professionals serve an important and influential role in the program management of a health information technology system. This could possibly create a conflict of interest wherein the medical professionals may unintentionally add requirements that are unnecessary for an enterprise system. Separating the roles—where acquisitions is in charge of procurement and the functional community advises—helps reduce the risk of adding requirements that are not needed.

3. Create Partnerships with Industry

Normally, the federal government waits until it has a complete proposal with all requirements before sharing any information with industry. With the DHMSM program, information was shared during the request-for-information stages before all requirements were gathered. According to executive 2, members of industry appreciate the early notification because it allows them to gather their teams and begin planning before the final request for proposal. Executive 2 reiterated that in many instances, industry flies blind as to what the government needs. Industry needs a lot of lead time to prepare for bidding on large programs. The federal government will benefit from the extra lead time for industry because it yields more competitive bids (personal communication, May 16, 2016).

4. Motivated Leadership

For COTS procurement, a knowledgeable leadership in acquisition processes with hands-on program governance can help move the system purchase forward and keep it on track. Leadership needs to engage the functional community directly. The PEO head should engage the functional community at the highest levels with the support of the USD (AT&L), forcing services to collaborate and buy-in to the system. The DHMSM program manager should aggressively engage the functional communities' committees to provide true requirements to the acquisition team in a timely manner. These leadership styles were able to bridge the two communities by ensuring that difficult decisions were made without continued friction, a critical piece to the success of both programs. The aggressive leadership displayed during PEO and DHMSM programs was successful in procuring a system; however, such a strategy may not be as effective for sustainment efforts.

B. FUTURE STUDY

This study provides an examination of the successful strategies the PEO and DHMSM used during the acquisition of the DOD's new EHR. It serves to identify what entities may influence a successful acquisition program-management office. Referring to Table 8 in Chapter III, the survey responses may offer a guide to determine future studies. The following are recommended areas for future study.

1. Examine the development of health systems and material commands.
2. Examine the improvement for standardizing separating acquisition and functional activities for large program projects.
3. Examine the impact of leveraging the use of the commercial industry early during the acquisition process.
4. Examine implementing a streamlined reporting chain for major acquisition programs to reduce bureaucracy.
5. Examine how organizations may codify and articulate their requirement collection to result in a successful system.

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APPENDIX A. PROGRAM INTERVIEWS—PROGRAM EXECUTIVES

The following are excerpts from telephone interviews from the program executives. Personal identifiable information has been removed to protect the subjects' privacy.

Executive 1

Interviewed on June 8, 2016

Interview conducted via telephone

Question 1) Were you involved in supporting any previous DOD EHR related programs? What do you believe were some of the key reasons for the failure of these past EHR programs?

- No, have not been involved in previous DOD EHR programs.
- Possible lack of understanding of requirements.
- Possible lack of stakeholder buy-in from users.

Question 2) What were the key obstacles and risks faced by PEO DHMS and the DHMSM PMO at the beginning of the DHMSM program?

- Lacking physical organization then had to stand up organization.
- Finding the right people for the job.
- Defining what success looks like and pulling together the acquisition strategy.
- Communications with congress and services.

Question 3) What major acquisition strategies were implemented to overcome these obstacles and risks?

- Effectively used competition and engaged industry early and often.
- Industry understood requirement early.
- Ensure the requirements are right and build on them.
- Had DHA and services spearhead requirements development.
- Developed contract strategy that was tailored and flexible.

Question 4) How would you describe the managerial strategies of PEO DHMS and the DHMSM PM, and how did they contribute to the success of the DHMSM program?

- Communicate with people with what is happening.
- Use a multi-dispensary team. Use people with all kinds of technical abilities.
- Ensure an open process on [how] PEO is executing the program. Held monthly reviews and invited stakeholders.

Question 5) Based on your experiences as a member of the PEO DHMS team, what are the key lessons learned and advice you can share that can benefit DOD PMO of other major software acquisition programs?

- Must communicate.
- Under promise and over deliver.
- Must adopt the enterprise system.
- Must have change management and training for user adoption.

Executive 2

Interviewed on May 16, 2016

Interview conducted via telephone

Question 1) Were you involved in supporting any previous DOD EHR related programs? What do you believe were some of the key reasons for the failure of these past EHR programs?

- Yes, was involved with ALHTA, iEHR and MHS Genesis.
- CHCS was not a failure, it moved MHS forward. ALHTA was also not a failure, it did not achieve everything is was set out to achieve, as several capability blocks were not delivered. However, it moved ambulatory care and documentation forward, [and] moved electronic health repository forward, first time any physician can see a health record at any part of the world. In that regard, it was a success but it did not achieve everything it set out to do.
- iEHR was different. DOD and VA wanted the next generation electronic health record to be for both DOD and VA. VA and DOD had different

views on how the EHR should proceed because DOD looks at Commercial off-shelve (COTS) but VA had been a pioneer with electronic health record development but has fallen behind commercial EHR system capabilities.

- Commercial capabilities have over taken Vista capabilities. DOD made a compromise to try to work with the VA on iEHR, instead of going with the best of suite choice, they decided to with VA and go with a best of breed approach with the iEHR. There were reports of cost overruns but there wasn't really cost over runs b/c there wasn't a contract for iEHR yet. The program was stopped before the best of breed occurred.

Question 2) What were the key obstacles and risks faced by PEO DHMS and the DHMSM PMO at the beginning of the DHMSM program?

- We were coming out of iEHR and there were still a lot of people that thought we should still continue to work with VA and use their VISTA system. But we believed that VISTA was then behind the market and would be costly to upgrade and maintain over time. DOD decided that VISTA wasn't an option. That was an obstacle because there is alot of politics involved.

Question 3) What major acquisition strategies were implemented to overcome these obstacles and risks?

- Multiple RFIs in areas we had questions on certain aspects of the EHR market places. So we did targeted RFIs and draft RFPs and the industry days.
- From the 30 years of experience, for the large scale systems and middle scale systems, this is the best interaction with industry I've seen, to get the best bids at a very good price to meet the needs.
- In the past, we in government waited until we had the RFP completed before forwarding to industry. This time, we took our first cut which still needed work but we shared it with industry. We got their feedback and continued to get internal feedback to make the RFP better. I think that's a big lesson learned, even though it's not ready for prime time-share that RFP early.

Question 4) How would you describe the managerial strategies of PEO DHMS and the DHMSM PMO, and how did they contribute to the success of the DHMSM program?

- The strategy that [PEO and DHMSM heads] brought with them combined with knowledge of the folks that lived with the iEHR and ALHTA/CHCS

enabled us to put together an excellent acquisition. I think that success when you combine the history lessons learned with the new thinking on how to interact with industry really led to the success.

- Industry appreciates the draft RFP because it allows them to get ready their teams and begin planning before the final RFP.

Question 5) Based on your experiences as a member of the PEO DHMS team, what are the key lessons learned and advice you can share that can benefit DOD PM of other major software acquisition programs?

- Inaction with industry. A lot of times, industry is flying blind on what the government really needs. Industry needs a lot of lead time to prepare for any large program, to get their teaming right, and to do a competitive bid. There's a lot of work that needs to be done on the industry side. Putting out RFPs, [and] RFIs, not only allows industry the ability to provide input to the whole process but also allow them to do work to get their team together [and] to prepare to bid on the RFP when it comes out. The more time you give industry, the better off they will be to offer a completive and good bid and it totally benefits the government when they can do that even though you are not ready for prime time with your RFP yet. So being able to do that early communication is tremendous for these companies because they are literally flying blind when stuff comes out from the gov't as a surprise.

APPENDIX B. PROGRAM INTERVIEWS—PROGRAM MANAGERS

The following are excerpts from in-person interviews from the program managers. Personal identifiable information has been removed to protect the subjects' privacy.

Program Manager 1

June 10, 2016

Interview conducted via face-to-face

Question 1) Were you involved in supporting any previous DOD EHR related programs? What do you believe were some of the key reasons for the failure of these past EHR programs?

- No, was not part of any previous EHR programs.
- Programs in the past lack adequate market research, requirements or technical agreement from respective communities.
- Programs in the past lack of acquisition professionals and team to acquire the product.
- Programs in the past had milestones that were not solidified.
- Programs in the past lack appropriate buy-in from stakeholders.

Question 2) What were the key obstacles and risks faced by PEO DHMS and the DHMSM PMO at the beginning of the DHMSM program?

- Must develop the ability to train the users including plans for maintenance, testing and deployment of the system.
- Local command governance.
- Attempts to inhibit the commercial product with unrealistic requirements.

Question 3) What major acquisition strategies were implemented to overcome these obstacles and risks?

- Leveraging what has been done in the commercial environment.
- Focused on commonalities of the uniformed health care system.
- Did not create artificial requirements.

- Had functional representatives on team.

Question 4) How would you describe the managerial strategies of PEO DHMS and the DHMSM PMO, and how did they contribute to the success of the DHMSM program?

- Flatten the organization, reduce the amount of layers and bureaucracy for decisions to be made.
- Develop meetings with a purpose.
- Create relationships with requirements community.
- Develop requirements that are static and stick to it. Allow for flexible with in the contract.
- Grade industry on RFP sections L and M and not the entire PWS.
- Leverage market research that had previous been done on the commercial product.

Question 5) Based on your experiences as a member of the PEO DHMS team, what are the key lessons learned and advice you can share that can benefit DOD PM of other major software acquisition programs?

- Setup a Health SYSCOM (System and Material Command).
- A Health SYSCOM will have acquisition professionals which can rapidly capture technological advancements in a dynamic field.
- Solidify what is the true requirement.
- Leverage commonality, don't highlight differences.

Program Manager 2

June 27, 2016

Interview conducted via face-to-face

Question 1) Were you involved in supporting any previous DOD EHR related programs? What do you believe were some of the key reasons for the failure of these past EHR programs?

- Yes, during the iEHR.

- I don't think DOD does development of these kind of software programs very well. It was good at one time during when we were writing code but now when there are commercial products.

Question 2) What were the key obstacles and risks faced by PEO DHMS and the DHMSM PMO at the beginning of the DHMSM program?

- From my perspective, when all this started, it was under the control of DCMO and DHA, [they were] involved in the process. The head of PEO came onboard PEO was established. Then it became a direct report to USD (AT&L) that is unlike anything else in DOD acquisition. What I think it also removed was DHA [because, they are] not an acquisition entity and it is not [their] core competency and they don't do it well.

Question 3) What major acquisition strategies were implemented to overcome these obstacles and risks?

- I think the acquisition strategy was a tailored acquisition. Not all the normal documentation was required.
- There was a great leadership emphasis to streamline the process, to get this thing moving fast.
- Without the ability to tailor things, you will get drown in time, paper work, and bureaucracy.

Question 4) How would you describe the managerial strategies of PEO DHMS and the DHMSM PMO, and how did they contribute to the success of the DHMSM program?

- The original [PEO and DHMSM heads] were very hands on people. They looked to engaged the functional community directly and force people to make decisions and get on board.
- [To] force people to have discussion on where the fraction points were and to overcome them. You do that by transparency and talking to people.
- Taking the best of all that information and educating what the RFP would be and critique would be. Taking all that information and using it all for your benefit, I think it's a key piece to the success.

Question 5) Based on your experiences as a member of the PEO DHMS team, what are the key lessons learned and advice you can share that can benefit DOD PM of other major software acquisition programs?

- Great leadership, clearly define leadership roles are very important.

- It needs to be an acquisition organization that runs the organization and not something inside of the functional community, meaning that the medical guy shouldn't be the one in charge of the acquisition.
- The functional [community] need[s] to be clearly involved and serve in that role. [They have] to tell you no kidding [what] they really need the [system] to do.
- The functional [community] really needs to be force to define the requirements, the tighter you that, the better you'll be able to buy it for them. The better the requirements, the better the acquisitions will be.

Program Manager 3

May 24, 2016

Interview conducted via face-to-face

Question 1) Were you involved in supporting any previous DOD EHR related programs? What do you believe were some of the key reasons for the failure of these past EHR programs?

- Yes, for iEHR and Clinical Information Technology Program Office (CITPO).
- DOD is a lousy software developer.
- For iEHR, DOD attempted to develop and modify a product. They [DOD] are not coders or developers.
- iEHR requirements were too problematic, too big of a product, two different secretariat organizations with different process and it was too big of a product. Which was probably a non-starter because of the two fundamentally different functions. Since process can't be strategized, it can't be implemented.

Question 2) What were the key obstacles and risks faced by PEO DHMS and the DHMSM PMO at the beginning of the DHMSM program?

- Congress hated us [DOD], due to the bad press about the failed EHR way ahead (2008–2009) program.
- DOD had spent over 2.4 billion dollars for iEHR that never materialized from 2008–2013.
- Lack of governance and lack of requirements.

- No requirements to put a contract action in place.
- Lack of program office. Building a program office while attempting to start program and build strategy for ACAT I program.

Question 3) What major acquisition strategies were implemented to overcome these obstacles and risks?

- Being a direct report to the USD (AT&L) and USD Sectary of Defense and with a lot of leadership interest help reduce road blocks for a program that did not exist. Helped removed all barriers.
- Reduced risk when placed under USD (AT&L) by removed obstacles, allow for aggressive strategy, test bed for new strategy (under USD [AT&L] guidance). Because staff is unlikely to disapprove previous approved USD (AT&L) guidance.
- Highly tailored five fundamental documents instead of the 16 required documents for ACAT I programs (acquisition strategy, acquisition baseline, engineering master plan, test strategy, deployment change management plan). These five documents allowed for streamline process and in coordinated other strategy requirements.

Question 4) How would you describe the managerial strategies of PEO DHMS and the DHMSM PMO, and how did they contribute to the success of the DHMSM program?

- Complete transparency.
- Said what we were going to do and we did it.
- Aggressive scheduling with milestones.
- Announced first industry day and held to the schedule and then published four other industry days which followed.
- Published acquisition plans.
- Meeting with companies/industry often.

Question 5) Based on your experiences as a member of the PEO DHMS team, what are the key lessons learned and advice you can share that can benefit DOD PM of other major software acquisition programs?

- Got to have
    1. Good requirements.
    2. Achievable and obtainable commercial contracting.

3. Accept commercial product, stable governance.
4. Clear requirements from functional and technical side with enough trade space to allow for COTS environment.
5. Allow enough space to leverage industry, be descriptive enough – to allow DOD to buy something.
6. Solid acquisition strategy that everyone brought into such as PEO/ USD (AT&L)/services/functional sponsors.
7. Cannot customize accepted commercial product. Must adopt COTS product with commercial capability.

APPENDIX C. PROGRAM INTERVIEWS—MANAGERS

The following are excerpts from in-person and Email correspondence from managers. Personal identifiable information has been removed to protect the subjects' privacy.

Manager 1

May 26, 2016

Interview conducted via face-to-face

Question 1) Were you involved in supporting any previous DOD EHR related programs? What do you believe were some of the key reasons for the failure of these past EHR programs?

- Yes, iEHR increment 1 and 2.
- The partnership between DOD and VA was not fully committed to by both parties.
- While the program achieved acquisition decisions to move forward, VA withdrew because they only wanted to modernize their legacy system with DOD funding.
- Requirements articulation with the Medical customer base is difficult.
- Lack of empowered central leadership with the authority to make decisions for the enterprise.
- Too many stakeholders reluctant to commit to a specific way forward, but also too many who can say no. Leadership by consensus does not work in a complex military machine.
- Stakeholders are reluctant to commit because they might miss out on the latest technological offering. Many "leaders" have established themselves leveraging technology locally. Scaling a home grown solution is often not feasible or runs into the same challenges as a formal acquisition.

Question 2) What were the key obstacles and risks faced by PEO DHMS and the DHMSM PMO at the beginning of the DHMSM Program?

- Lack of formal requirements.
- Lack of empowered central leadership with the authority to make decision for the enterprise.

Question 3) What major acquisition strategies were implemented to overcome these obstacles and risks?

- Third parties were tasked to make it happen. Congress to SECDEF, SECDEF to USD(AT&L) to the new PEO to the new PM.
- Requirements development through draft RFPs and partnership with industry.
- "Tailored" acquisition within the parameters of the DOD 5000.02 (Authority to Proceed (ATP) vice traditional Milestone events).

Question 4) How would you describe the managerial strategies of PEO DHMS and the DHMSM PMO, and how did they contribute to the success of the DHMSM Program?

- Partnership and guidance from USD (AT&L), was they tailored the acquisition processes to deliver capability.

Question 5) Based on your experiences as a member of the PEO DHMS team, what are the key lessons learned and advice you can share that can benefit DOD PM of other major software acquisition programs?

- Force the organization to formalize requirements, to identify a central leader who is empowered to make decision for the enterprise – meaning all of DOD and four services, that health care normalize between the four service regardless of geographic location or operational mission, it's about time that we normalize health care and truly make it purple – in sense making it purple and have influence about how the title 10 service execute their mission.

Manager 2

May 25, 2016

Interview conducted via email exchange

Question 1) Were you involved in supporting any previous DOD EHR related programs? What do you believe were some of the key reasons for the failure of these past EHR programs?

- Yes. I have worked within the Tricare Management Activity and now DHA since 1998. I don't know that I would classify as failures.
- In my opinion, there were delays due to the lack of a single empowered authority. There was not one vision with one way forward. Each Service

wanted to ensure respective processes and business rules were protected; not compromised. Each Service has requirements inherent to its mission.

- CHCS was an early EHR program designed to assist the medical community at respective MTFs. Each desktop was configured based on need of the respective Service and MTF. Then along comes CHCS II (subsequently AHLTA). Although an improvement, AHLTA did not provide meet everyone's expectations. CHCS could not simply be uploaded to the new system.
- While AHLTA represents the largest DOD EHR capabilities in the world, it does not completely support all defined current needs and anticipated future needs. The existing capabilities fail to meet the vision of a comprehensive EHR and do not effectively support the presidential initiatives for an EHR or seamless data sharing with the necessary partners. The advancements in technology and changes in the complexity of medicine, healthcare delivery, dependencies on civilian managed care, data-sharing with the Federal and commercial partners and Operational Tempo require advanced EHR capabilities to meet current and future needs.
- In my opinion, the lack of a single authoritative source, the design of the Government and Service Departments to have multiple layers of governance processes, long lead times to approve/obtain funding, sound working relationships between the functional (requirements) and technical communities along with the rotation of Service members led to significant delays or failures.

Question 2) What were the key obstacles and risks faced by PEO DHMS and the DHMSM PMO at the beginning of the DHMSM Program?

- Another obstacle included securing funding. There are many competing priorities for funding. The Government Program, Planning, Budgeting, and Execution System (PPBES) is designed to plan for many years of future funding requirements. This system was designed based on product development/manufacturing, deployment and sustainment. In this ever changing world of technology, the system is not flexible to keep up.
- Another obstacle is staffing. First of all, a clear plan for staffing and manning the projects and programs is needed. Then obtaining the right talent, in a timely manner, to execute a plan that is filled with challenges ranging from long hiring time for civilians, Service members' rotation schedules and competing requirements like the war, cost of contract support, and length of time to award contract are clearly obstacles in being able to accomplish the work.

Question 3) What major acquisition strategies were implemented to overcome these obstacles and risks?

- From my perspective, the biggest obstacle was overcome when the PEO DHMS was stood up under USD (AT&L). This provided for an empowered authoritative source.
- Staffing obstacles were overcome with the agreement between DHA and SPAWAR – allowing the PEO DHMS to hire skilled staff from the Working Capital Funds.
- With the designation of … [name redacted] as the PEO, [name redacted] rebuilt the credibility at the highest levels, Congress, AT&L, OMB, and the Services. This enabled the program to secure funding.
- Rebuilding the broken relationships and ensuring the cost assessment and program evaluation was included as part of the process, enabled the Life Cycle Cost Estimate to be successfully developed/implemented. Additionally, via a "tailored" acquisition approach, all stakeholders were part of the process and included in the development of the DHMSM Acquisition Strategy

Question 4) How would you describe the managerial strategies of PEO DHMS and the DHMSM PMO, and how did they contribute to the success of the DHMSM Program?

- The years of acquisition experience enabled leadership to identify the processes inherently required for a successful COTS acquisition. They identified the right skills sets and staff needed to meeting the challenges of developing an RFP that clearly addressed and identified the requirements required for a vendor to provide a COTS solution.
- They identified the right skills sets and staff needed to meeting the challenges of developing an RFP that clearly addressed and identified the requirements required for a vendor to provide a COTS solution.
- Additionally, through their leadership, they ensured the right communities were part of the evaluation process to ensure the functional requirements would be met. In addition to their leadership, folks were highly motivated to support the mission of obtaining a cradle-to-grave EHR for our Service Members, Families and Beneficiaries.

Question 5) Based on your experiences as a member of the PEO DHMS team, what are the key lessons learned and advice you can share that can benefit DOD PM of other major software acquisition programs?

- Teamwork and Communication
- Clear understanding of requirements and desired outcomes
- Identify stakeholders and beneficiaries – make them part of the process
- Create positive working environments that motivate employees

- Establish realistic goals and timelines

Manager 3

May 31, 2016

Interview conducted via face-to-face

Question 1) Were you involved in supporting any previous DOD EHR related programs? What do you believe were some of the key reasons for the failure of these past EHR programs?

- Yes.
- This was a time when DOD was not ready to do this but we still went through a whole process with the DHMSM. The IEHR was trying to do that with us and do it with the VA, and VA was less prepared to deal with standardization and process flows than then DOD was. The DOD had three services Navy, Army, Air Force, so the DOD has three different policy things. VA has 120 modules of VISTA. They have to decentralize what they do, they have medical centers that run their own VISTA and has its own work flows i.e., billing. Before DOD and VA can work together, you have to have three [services] in DOD and 120 [modules] on VA. If you can't get together what system your building and variables that you will put in play, then you're sunk.
- There was a huge group at the VA that wanted to re-litigate the decision for the DOD not to buy into the VISTA system. The VA decision was, that we think we should use Vista as the basis for the EHR, DOD that doesn't make sense to us, we don't have Vista programmers and will cost us more to use VISTA. The VA recognize that DOD as a partner and a cash source. The smaller department will leverage the bigger department, so they can pay for it, is what VA wanted. You have backers of VA that DOD is leaving VA out. Some didn't understand interoperability and some knew it but understood [that] VA would be better with DOD.
- When VISTA came out, it was state of the art but industry has past that.
- The DOD came to the conclusion earlier than the VA, because the DOD experience with buying all kinds of other weapons systems. We don't design airplane anymore, we buy planes from Lockheed and Boeing designs. There was a time when we designed our own airplanes and over saw the building of them. We outsource those professionals decades ago. And the VA still have VISTA programmers on its staff.

Question 2) What were the key obstacles and risks faced by PEO DHMS and the DHMSM PMO at the beginning of the DHMSM program?

- When DHMSM was created, you had a medical community that felt like they have their best and brightest in endeavor taken away from them by failures that happen in the past. And by letting the acquisition people procure the EHR—what do they know about EHR? There were hurt feelings throughout the medical community. That was an obstacle.
- Services fighting one another and fighting with DHA to have some of governance and decision making process. You had three medical systems that operated with autonomy for decades and now they are being forced into one central organization.

Question 3) What major acquisition strategies were implemented to overcome these obstacles and risks?

- [The Head of PEO] said that he was in the DOD but not in the medical community. The DOD is in the buying business. Our focus is not as a health care organization and we need to leave the best practices of the health care organization to the industry. We need to decide if we can pick up those best practices so we don't have to be responsible for creating them.
- Taking away the personal ownership of those most aligned with that system, that lead to a better decision.

Question 4) How would you describe the managerial strategies of PEO DHMS and the DHMSM PMO, and how did they contribute to the success of the DHMSM program?

- N/A

Question 5) Based on your experiences as a member of the PEO DHMS team, what are the key lessons learned and advice you can share that can benefit DOD PM of other major software acquisition programs?

- We need to have a medical health system that is able to leverage the best practices of the medical community. And adopt their best practice so the medical community can be at the forefront of the industry. DOD made a transition by bring in an acquisition force in that wanted to acquire or get the best electronic health record, it takes all the personal feeling out of it.
- Admin and bureaucracy and policy vice technology and that's [the] best thing that you can do for any IT or weapons system is [to] ensure that the customer (biggest stake) is removed from the acquisition decision and leave the business decision to acquisition people.

Manager 4

May 17, 2016

Interview conducted via face-to-face

Question 1) Were you involved in supporting any previous DOD EHR related programs? What do you believe were some of the key reasons for the failure of these past EHR programs?

- I was not involved in previous programs.

Question 2) What were the key obstacles and risks faced by PEO DHMS and the DHMSM PMO at the beginning of the DHMSM program?

- I believe that perceptions from the previous implementations affected the program because … no one took the project seriously to get a contract in place.
- It required collaboration across multiple organizations which requires attention to ensure collaboration.
- There were aggressive schedule constraints due in part to non-execution of previous programs.

Question 3) What major acquisition strategies were implemented to overcome these obstacles and risks?

- Not sure it is an acquisition strategy but the use of common sense to not allow stupid things get in the way.
- Leadership not afraid to challenge status quo to move things forward if there is a road block.

Question 4) How would you describe the managerial strategies of PEO DHMS and the DHMSM PMO, and how did they contribute to the success of the DHMSM Program?

- They weren't afraid to take risks.
- They did not wait to have 100 percent of items complete before they would execute. For example, as information became available, [the] draft RFP were released on multiple occasions to get industry involved early.

Question 5) Based on your experiences as a member of the PEO DHMS team, what are the key lessons learned and advice you can share that can benefit DOD PM of other major software acquisition programs?

- Do not be afraid to take risks.
- Encourage collaboration to include frequent and early interaction.
- Do not be afraid to ask or recommend to streamlining the acquisition process.

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