INSTITUTE FOR DEFENSE ANALYSES

Feasibility Study for the Consolidation of Military Medical Education and Training Organizations, Functions, and Activities (Revised)

Sarah K. John, Project Leader
Dylan J. Carrington-Fair
Matthew S. Goldberg
Laura A. Hildreth
Jamie M. Lindly
W. Patrick Luan
Madeline Minneci

September 2019
Approved for public release;
distribution is unlimited.
IDA Paper P-10615, Revised
Log: H 19-000197

INSTITUTE FOR DEFENSE ANALYSES
4850 Mark Center Drive
Alexandria, Virginia 22311-1882

The Institute for Defense Analyses is a non-profit corporation that operates three federally funded research and development centers to provide objective analyses of national security issues, particularly those requiring scientific and technical expertise, and conduct related research on other national challenges.

About this Publication

This work was conducted by the Institute for Defense Analyses (IDA) under contract HQ0034-14-D-0001, Project Number FL-7-4586, "Military Medical Education and Training," for the Office of the Assistant Secretary of Defense (Health Affairs). The views, opinions, and findings should not be construed as representing the official position of either the Department of Defense or the sponsoring organization.

Acknowledgments

Thank you to Nancy M. Huff, Julie A. Pechacek, and Susan L. Rose for performing technical review of this document.

For More Information:
Sarah K. John, Project Leader
sjohn@ida.org, (703) 575-1407

David E. Hunter, Director, Cost Analysis and Research Division
dhunter@ida.org, (703) 575-4686

INSTITUTE FOR DEFENSE ANALYSES

IDA Paper P-10615, Revised

Feasibility Study for the Consolidation of Military Medical Education and Training Organizations, Functions, and Activities (Revised)

Sarah K. John, Project Leader
Dylan J. Carrington-Fair
Matthew S. Goldberg
Laura A. Hildreth
Jamie M. Lindly
W. Patrick Luan
Madeline Minneci

Executive Summary

The Department of Defense (DoD) maintains a uniformed medical force of nearly 190,000 personnel (115,000 Active Duty; 71,000 Reserve Component). To build and sustain a medical force of this size, the Military Health System (MHS) operates a large medical education and training (E&T) enterprise at a cost of over $2.2 billion dollars annually. The five major components running these E&T activities are the three Armed Services, the Defense Health Agency (DHA), and the Uniformed Services University (USU). Collectively, these components provide medical E&T to over 100,000 students annually through over 1,500 different programs that range from one-day seminars to postgraduate medical education, which can take up to a decade to complete.

Section 711 of the Fiscal Year (FY) 2019 National Defense Authorization Act (NDAA) required the Department to deliver a report to the Congress on the feasibility of consolidating medical E&T organizations, activities, and functions into a newly established Education and Training Organization (ETO) subordinate to the DHA and headed by the president of USU. A Medical E&T working group was established to perform the feasibility assessment and deliver the final report. The Institute for Defense Analyses (IDA) was asked to support the working group by analyzing the current E&T enterprise and developing potential options for the organization of the new ETO. While the FY 2019 NDAA directed multiple MHS reforms and feasibility studies, we note that much of this direction has roots in the FY 2017 NDAA, which called for sweeping MHS reforms that are still in the process of being implemented. These reforms greatly affected the allocation of mission roles, responsibilities, and resources among the Service medical departments and DHA—affecting the E&T enterprise along with many other MHS functions.

One major provision with significant implications for medical E&T transferred responsibility for management of the Military Treatment Facilities (MTFs), a key platform for E&T, from the Service medical departments to DHA. Numerous additional provisions were unified by a common underlying theme of increasing the focus on the operational (or readiness) mission. The pivot towards readiness is meant to address growing concerns that the MHS has prioritized the delivery of peacetime health care over maintaining critical wartime capabilities. As a result, the Congress has directed measures to realign operations with the readiness mission, including restructuring the composition of the medical force, elements of MHS infrastructure, and key components of the medical E&T pipeline.

The 2017 reform direction warranted exploring a new path forward for medical E&T. The 2019 direction for the E&T feasibility study raised further questions of whether a new

path forward should involve greater consolidation and how DHA and USU might take on additional roles in medical E&T, which is largely regarded as falling under Service Title 10 authority to "recruit, organize, train, and equip."

Approach

The IDA project had three main objectives: (1) define the current medical E&T enterprise, (2) develop options for reorganization that would meet the congressional intent, and (3) provide an analytical framework that the Department could use to assess the feasibility (and desirability) of the options. We summarize each below.

E&T Enterprise Definition

The medical E&T enterprise is large, complex, and decentralized. While numerous studies have been conducted on various aspects of military medical E&T, this paper represents the first attempt to assemble a comprehensive picture of the medical E&T enterprise. To conduct this assessment, the IDA team first identified all E&T stakeholders and programs within the feasibility study's scope. We then assembled a large medical E&T inventory in which we catalogued all identified programs. A medical E&T taxonomy was developed for classifying and organizing hundreds of E&T activities by category (initial training, sustainment training, or professional development) and by the type of medical competencies they provide (basic medical, general military medical, or Service-specific military medical). This taxonomy was later used as a framework for determining where medical E&T activities should align under the proposed ETO during the option development phase.

Option Development

The new DHA ETO could take on a wide variety of configurations. We chose to develop three contrasting organizational approaches (or models) that would span a range of potential options. The models developed within this research share an underlying organizing principle but vary in the degree of consolidation and integration they achieve. The first option, the "Consortium Model," is the most decentralized and closest to the status quo. We consider it a "five to five" model in that it largely maintains each of the five main E&T components (while driving some integration and standardization). The second model, the "Defense Medical War College Model," falls in the middle of the consolidation/ integration spectrum. We consider it a "five to two" model in that it consolidates all E&T activities under two main components: (1) USU, which takes over all initial classroom-based training (largely education), and (2) a Defense Medical War College, which takes over all sustainment and professional development E&T activities (largely training). The final model, the "University Model," consolidates all medical E&T activities under a single

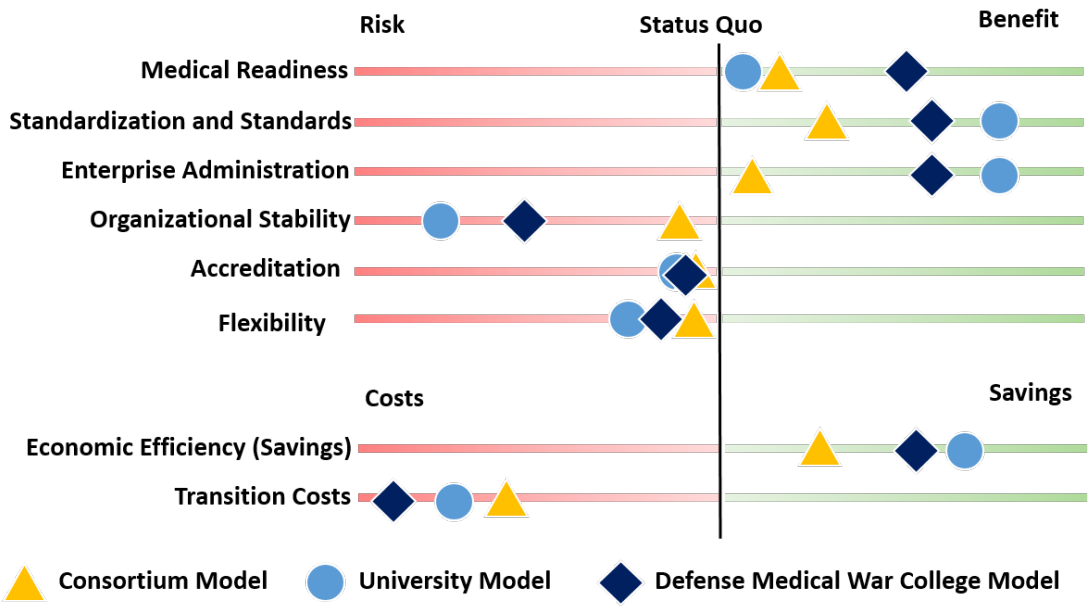
university umbrella. It is a "five to one" model with centralized management of all E&T functions.

Analytical Framework

The framework developed to guide assessment of the options is based upon asking two questions: (1) Will the option make the enterprise more effective at achieving E&T objectives (effectiveness analysis)? and (2) Will the option result in cost savings to the MHS (cost savings analysis)? The cost savings analysis explored the range of potential cost savings that could be achieved under the alternative reorganization options, as well as the range of transition costs that would be incurred.

Summary of Findings

We find that it is feasible to consolidate medical E&T under a new DHA ETO. However, our assessment did not clearly identify one option as a superior choice. This is because each model offered a differentiated set of benefits as well as risks, as illustrated in the figure below. The ultimate choice among the alternative models (or maintaining the status quo) should be based on how leadership prioritizes the different benefits and risks.



Summary of Option Assessments

A more general summary of the overall benefits and risks associated with reform follows.

Potential Benefits

Today, the medical E&T enterprise is very decentralized—it is the sum of many different organizations conducting a wide variety of medical E&T activities. As such, it lacks an overall strategic direction and synchronized leadership. Important decisions on priorities, policies, and resourcing are left to the individual components, leading to significant duplication of activities and functions. Consolidation offers opportunities to improve organizational effectiveness and generate enterprise-wide savings.

In terms of organizational effectiveness, the benefits from consolidation were clearest in the areas of standardization (and standards), economic efficiency, and enterprise administration. A DHA-led ETO could drive greater standardization in E&T requirements, curricula, and student experience. Minimum standards (e.g., clinical hours, credentials, etc.) could be set enterprise-wide for each occupation. Common core curricula could be provided in joint training settings and augmented with Service-specific training as appropriate. In terms of economic efficiency, there was clear potential for reducing duplicative functions and providing more shared services at the enterprise level. For enterprise administration, benefits were probably greatest in the area of improving transparency and synchronization across the enterprise while enhancing the evaluation of E&T delivery.

Cost savings were another potential benefit. Depending on the model, best estimates of the annual costs savings range from $30 to $70 million—approximately 4 to 9 percent of the $740 million dollar expenditure base considered for consolidation (certain programs such as physician residencies were not considered for consolidation). These savings were modest and depend upon realizing efficiencies, but are high enough to offset expected transition costs within a few years.

Potential Risks

Large reorganizations come with inherent opportunity costs and risks to the sustained operation of the organization. We note that many of the potential benefits highlighted above could also be achieved under a reformed version of the status quo. The effort and expense of aligning to a new organizational structure may be better spent improving and streamlining the current enterprise. This is especially true given the MHS is currently in the midst of significant reform and transition. A reorganization of medical E&T could add to the instability and divert resources and attention from the ongoing transitions.

A DHA-led ETO is also likely to meet Service resistance and spark a debate over Title 10 authority. We assessed that a DHA-led ETO would not necessarily violate Title 10 authority and note several tested models in which each Service acts as a customer, specifying training requirements (e.g., number and specialty mix of trainees) and receiving trained personnel (Medical Education and Training Campus, USU). However, some legislative relief will likely be required. For instance, realigning oversight of graduate

medical education (GME) to the DHA ETO would require revising law enacted by Sec 702 of the 2017 NDAA. Creating a new Tri-Service Defense Medical War College would also require legislative support and new Title 10 authorities.

Last, a DHA-led ETO would once again give one organization responsibility for both the MTFs (beneficiary care mission) and a key component of the readiness mission. When the Services were responsible for both missions, many argued the beneficiary care mission was prioritized over operational training. A growing body of evidence has demonstrated that there is little overlap between the case mix generated by the beneficiary care mission and the case mix required to train certain critical wartime specialties (e.g., emergency medicine, trauma surgery, and other surgical specialties). The components responsible for medical E&T should be incentivized to critically evaluate the E&T opportunities available in the MTFs and, when necessary, seek outside arrangements (e.g., conduct training in busy civilian trauma centers) without having to weigh the impact on MTF operations.

General Recommendations

While this report does not recommend one reform model above the others, it does provide a general set of recommendations for organizational reform of the medical E&T enterprise. These stem from the medical E&T inventory and organizational taxonomy developed within this project. Based on that framework, we recommend the following:

- Initial classroom-based E&T activities primarily focused on producing medical competencies should be aligned to USU (if to be provided directly by the E&T enterprise) or carried out in the civilian sector (through scholarship programs such as the Health Professions Scholarship Program). Locating all higher MHS medical education and degree programs under one entity could increase standardization, efficiency, and transparency. The costs and benefits of providing these activities in-house (as opposed to outsourcing them to the civilian sector) should be routinely assessed to ensure the value proposition.
- Initial MTF-based E&T activities focused on producing medical competencies (including Phase II enlisted training, GME, etc.) should remain in the control of the Services and existing training consortiums (with some exceptions for clinical training that is part of a USU degree program). As DHA assumes management of the MTFs, it will likely be preoccupied with the beneficiary care mission. Clinical training programs should be controlled by the Services, as they have the strongest incentive to focus on the readiness mission.
- Sustainment and professional development E&T activities that provide general military medical competencies should align to DHA. These programs are unique to military medicine (not easily outsourced) but common across all Services. Aligning them to the DHA and conducting them in a joint setting can increase

standardization and transparency, improve interoperability, and lead to economic efficiencies. On the other hand, sustainment and professional development E&T activities focused on producing military medical competencies that are Service- or environment-specific should be carried out directly by the individual Services. Consolidating such trainings could hinder readiness and the Service-specific capabilities necessary to support unique operational environments.

- Last, the analysis identified a common set of E&T functions carried out by each component (e.g., providing accreditation, library/learning resource centers, learning management systems, medical modeling and simulation, and continuing education) that could potentially be consolidated to gain economic efficiencies. Detailed business case analyses should be carried out to determine which functions should be consolidated (elevated to the ETO and centrally provided) and which should remain decentralized.

Contents

1. Introduction

The Military Health System (MHS) has two primary missions: the readiness mission and the beneficiary care mission. The readiness mission drives the requirement for a uniformed medical force and is focused on maintaining a medical capability to support combat operations (e.g., providing combat casualty care and force health protection). The beneficiary care mission is focused on providing a health benefit to over nine million eligible Department of Defense (DoD) beneficiaries.[1] Today nearly 190,000 uniformed medical personnel (115,000 Active; 71,000 Reserve) work in support of these dual missions.

To build and sustain a medical force of this size, the MHS operates a large medical education and training (E&T) enterprise at a cost of over $2.2 billion dollars annually. Today this enterprise consists of E&T run by the three Armed Services, the Defense Health Agency (DHA), and the Uniformed Services University (USU). Collectively, these components provide medical E&T to over 100,000 students through over 1,500 different programs (or courses) that range from one-day seminars to postgraduate medical education, which can take up to a decade to complete.

The purpose of this project is to provide analytic support to the DoD E&T working group charged with analyzing the feasibility of consolidating the military medical E&T organizations, functions, and activities into a newly established organization subordinate to DHA and headed by the president of USU. The direction for this project came from the Fiscal Year (FY) 2019 National Defense Authorization Act (NDAA), section 711(b) (2), which required:

> Not later than 270 days after the date of the enactment of this Act, the Secretary of Defense shall submit to the Committees on Armed Services of the Senate and the House of Representatives a report on a study, conducted by the Secretary for purposes of the report, of the feasibility of establishing with the Defense Health Agency a subordinate organization, to be called the Defense Health Agency Education and Training, to be led by the President of the Uniformed Services University of the Health Sciences and to be comprised of the current Medical Education and Training Campus, the Uniformed Services University of the Health Sciences, the medical education and training commands of the Armed Forces, and such other

[1] TRICARE beneficiaries include Active Duty Service members (and their dependents) along with military retirees (and their dependents). The *Evaluation of the TRICARE Program: Fiscal Year 2018 Report to Congress* reported 9.4 million beneficiaries worldwide.

elements, facilities, and commands of the Department of Defense as the Secretary considers appropriate.

This language suggests a clear congressional interest in consolidating medical E&T organizations and activities under DHA. Such a move could potentially parallel the transformations that occurred within the United Kingdom's (UK) Ministry of Defence, which saw its military medical E&T institutions consolidated in 2003. That year, the establishment of the Defence Medical Education and Training Agency (DMETA) brought together all the organizations responsible for the training and continuous professional development of personnel in the Defence Medical Services. Some would argue the establishment of the DMETA laid the groundwork for the subsequent creation of the UK Joint Medical Command in 2008.[2]

Additional language contained within Section 711 provides further evidence of congressional interest in a more integrated MHS through consolidating medical activities under DHA. This includes language calling for consolidating medical research and development activities and public health activities under two new DHA agencies—DHA Research and Development and DHA Public Health—and a final provision directing a feasibility study on establishing a Defense Health Command to supersede DHA.[3] While this project will have a singular focus on medical E&T, we note the broader interest in consolidation and that the consolidation of medical E&T activities could serve as a key stepping-stone in this direction.

It is important to recognize that the direction discussed above comes during a very dynamic period for the MHS. It follows large transitions currently underway in the MHS that have their roots in the FY 2017 NDAA, which directed sweeping changes. These transitions have greatly affected the allocation of mission roles, responsibilities, and resources among the Service medical departments and DHA. Some of these changes have direct implications for medical E&T. The following section provides some context on current transitions occurring in the MHS and their relationship to medical E&T. This is followed by a summary of the objectives set for this project.

A. Background on Recent Changes in the Military Health System

As previously discussed, the MHS has historically operated under a dual mission construct. In support of both missions, the Service medical departments have maintained a large network of military hospitals and clinics known as military treatment facilities

---

[2] Defence Medical Education & Training Agency (DMETA), *Defence Medical Education and Training Agency Annual Report 2007/08* (London, UK: DMETA, July 2008), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/229297/0834.pdf.

[3] These provisions were required by Section 711 (b) (1), 711 (b) (2), respectively.

(MTFs). While MTFs are largely focused on delivering care to beneficiaries (i.e., the beneficiary care mission), they are justified by the readiness mission. This is because MTFs are designed to serve as readiness platforms or facilities where military medical providers can train and maintain their skills during peacetime. Under this construct, MTFs have naturally played a vital role in medical E&T. Because each Service historically ran its own MTFs, the training within these MTFs has generally been considered Service-specific.

In recent years, however, many have questioned the adequacy of using the MTFs as training platforms for the readiness mission.[4] A growing literature has documented significant differences in the clinical case mix available in the MTFs and the mission essential case mix delivered in theater (largely trauma, critical care, and emergency medicine).[5] This situation is potentially concerning, given the literature on provider volume and patient outcomes.[6] It has also created challenges for maintaining a medical force whose specialties align to the operational mission. Historically, the medical specialty mix has gravitated toward the beneficiary care mission during peacetime—beneficiary care specialties (e.g., pediatrics and obstetrics) have been overstaffed, while crucial readiness specialties (e.g., general surgery and anesthesiology) have been staffed below their requirement.[7] Table 1 illustrates this misalignment for the mentioned specialties in the early years of Operation Iraqi Freedom/Operation Enduring Freedom.

Table 1. Misalignment of Medical Force

Specialty	FY 2004 Military Requirement	FY 2004 Executed End-Strength	End-Strength Minus Requirement
Pediatrics	286	645	359
Obstetrics	208	387	179
Anesthesiology	318	259	-59
General Surgery	685	443	-242

Source: John Whitley, "Five Actions to Improve Military Hospital Performance."

4 John Whitley, "Five Actions to Improve Military Hospital Performance" (Washington, DC: IBM Center for The Business of Government, September 2017), http://www.businessofgovernment.org/sites/default/files/Five%20Actions%20to%20Improve%20Military%20Hospital%20Performance.pdf.

5 Military Compensation and Retirement Modernization Commission (MCRMC), "Final Report: Report of the Military Compensation and Retirement Modernization Commission" (Washington, DC: MCRMC, January 2015), https://apps.dtic.mil/docs/citations/ADA625626.

6 Holly Brevig et al., "The Quality-Volume Relationship: Comparing Civilian and MHS Practice" (Arlington, VA: CNA, November 2014), https://www.cna.org/CNA_files/PDF/DIM-2014-U-009221-Final.pdf.

7 John E. Whitley et al., "Medical Total Force Management," IDA Paper P-5047 (Alexandria, VA: Institute for Defense Analyses, May 2014).

This misalignment has clear implications for the E&T pipeline, as specialty mix will tend to align to the specialties that can be supported by the workload available in the MTFs. This is especially true for physician specialties and GME programs, which are strictly regulated by the Accreditation Council for Graduate Medical Education (ACGME).

These concerns, combined with concerns over MTF productivity and high costs, led the Congress to direct sweeping changes to the MHS in the FY 2017 NDAA.[8] While the NDAA directed many changes, two key themes emerged:

- **Increased focus on the readiness mission and the operational force:** Multiple provisions of the 2017 NDAA sought to increase the MHS focus on the readiness mission (some with a strong emphasis on trauma). These included:
  - **707: Joint Trauma System –** Directed the Secretary of Defense to submit an implementation plan for establishing a Joint Trauma System within DHA to promote improved trauma care.
  - **708: Joint Trauma Education and Training Directorate –** Directed the Secretary of Defense to establish a Joint Trauma Education and Training Directorate to ensure provider readiness is maintained. The formation of partnerships with large civilian trauma centers was discussed as part of this provision.
  - **717: Evaluation and Treatment of Veterans and Civilians at Military Facilities –** Authorized the treatment of civilians and veterans in MTFs for the purpose of increasing military providers' access to readiness-related case mix.
  - **721: Authority to Convert Military Medical and Dental Positions to Civilian Medical Positions –** Authorized the conversion of military medical and dental billets to civilian billets when the positions were not necessary to meet the operational medical force requirements.
  - **725: Adjustment of Medical Services, Personnel Authorized Strengths, and Infrastructure in Military Health System to Maintain Readiness and Core Competencies of Health Care Providers –** Directed the Secretary of Defense to implement measures ensuring the medical force and the care provided throughout the MHS was aligned to critical wartime medical readiness skills and core competencies.

---

[8] Under Secretary of Defense (Personnel and Readiness) (USD(P&R)), *Military Health System Modernization Study Team Report* (Washington, DC: DoD, May 29, 2015); Philip M. Lurie, "Comparing the Costs of Military Treatment Facilities with Private Sector Care," IDA Paper NS P-5262 (Alexandria, VA: Institute for Defense Analyses, February 2016).

  - **749: Oversight of Graduate Medical Education (GME) Programs of Military Departments –** Directed the Secretary of Defense to establish and implement a process to provide oversight into the Service-run GME programs. The process was to ensure programs were aligned to the operational medical requirements and to minimize duplication of effort.

- **MTF Administration:** In addition to increasing the focus on readiness, the NDAA also contained several significant provisions focused on MTF administration and modernization. These included:
  - **702: Reform of Administration of the Defense Health Agency and Military Medical Treatment Facilities –** Transferred responsibility for administering the MTFs from the Service medical departments to DHA. The conference report cited inefficiencies under the previous structure of "essentially three separate health systems each managed by one of the three Services" and potential benefits (eliminate redundancy, greater efficiency, monetary savings, and improved beneficiary experience) from having a single agency responsible.
  - **703: Military Medical Treatment Facilities –** Established a set of requirements for three types of MTFs that could be maintained by the MHS (medical centers, hospitals, and ambulatory care centers).

It has been argued that the transition of the MTFs from the Service medical departments to DHA helped clarify the roles and missions of the Service medical departments and DHA.[9] Under the new construct, DHA took responsibility for managing the MTFs and delivering beneficiary care, leaving the Service medical departments to focus on the readiness of the military medical force.

In the sphere of medical E&T, responsibilities for roles and missions are less clear. While the Service Surgeons General have long-standing authority to recruit, organize, train, and equip their respective medical personnel, DHA now owns key medical E&T platforms (the MTFs). In addition, various NDAA provisions and DoD directives have granted DHA several E&T authorities that overlap with Services' Title 10 authorities (especially in the area of trauma training). This direction appears to be aimed at providing some degree of training standardization across Services, improving interoperability, and gaining efficiencies through consolidating like activities and capabilities. Many of these objectives align with the mission of the current DHA Education and Training directorate (J7). Chapter 3 will discuss the authorities of each E&T stakeholder. Appendix A also covers authorities in greater detail with an emphasis on recent changes and the overlap.

---

[9] See Whitley, "Five Actions," for further discussion of the reform framework provided by the FY 2017 NDAA.

The FY 2019 NDAA specifically questions the feasibility of placing the vast majority of the medical E&T activities (those run by USU, the Medical Education and Training Campus (METC), and the Service medical E&T commands) into a new DHA-subordinate Education and Training Organization (ETO). Additional provisions of the 2019 NDAA appear to reinforce the themes of increased focus on the readiness mission and interoperability/joint medical capabilities. These are summarized below along with a final medical E&T provision on providing Special Operations Forces medics with credit toward Physician Assistant (PA) degrees. We include this last provision as it relates to ongoing MHS efforts to provide academic credit and degrees to enlisted personnel for the training they complete during their military service.[10]

- **712: Organizational Framework of the Military Healthcare System to Support the Medical Requirements of the Combatant Commands –** Directs the implementation of an MHS organizational framework that maximizes interoperability and fully integrates medical capabilities to enhance joint military medical operations.
- **719: Improvement to Trauma Center Partnerships –** Amended Section 708(c) of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328; 10 U.S.C. 1071) to further emphasize forming partnerships with trauma centers.
- **732: Joint Forces Medical Capabilities Development and Standardization –** Directs the Secretary to develop a process to establish required joint force medical capabilities that meet the operational planning requirements of the combatant commands. The process is to include a joint medical requirement estimate, a review of military health mission essential tasks, and a process for standardizing interoperability of medical equipment and capabilities.
- **735: Pilot Program on Earning by Special Operations Forces Medics of Credit toward a Physician Assistant Degree –** Directs a pilot program to assess the feasibility and advisability of partnerships between Special Operations Forces and institutions of higher education through which Special Operations Forces medics earn credit toward the master's degree of Physician Assistant.

The recommendations and analyses in this paper have been informed/influenced, in part, by the large transitions occurring in the MHS today, the intent behind them, and their implications for the future of the MHS medical E&T enterprise. We note that the changing

[10] The granting of academic credit to enlisted personnel may continue to grow in importance as the civilian trend of increasing education requirements (or degree creep) for health science occupations continues.

emphasis on the readiness mission will likely necessitate a shift in the composition and accession of personnel through the medical E&T pipeline. This may pose a particular challenge given already existing gaps in many of the readiness-related physician specialties. A 2018 Government Accountability Office (GAO) report found that for FY 2011–2015, each Service component was persistently below 80 percent of authorizations in 19 physician specialties (11 were considered critically short wartime specialties).[11]

B. Objectives of this Project

This project has three main objectives:

1. **Define the current MHS education and training (E&T) enterprise:** The medical E&T enterprise is very large, complex, and decentralized. Our first objective was therefore to identify all E&T stakeholders and programs within this feasibility study's scope. As part of this effort, we assembled a large medical E&T program inventory in which we catalogued all identified programs. Variables captured by the inventory include program name, program length, program location, number of students, and owning organization. A medical E&T taxonomy was developed for classifying and organizing hundreds of E&T activities by category (initial training, sustainment training, professional development) and by the type of medical competencies they provide (general medical, military medical, Service-specific military medical). In addition to producing the inventory, we also analyzed the organizational structure, missions, resources, and common E&T functions provided by each E&T stakeholder.
2. **Develop new options for the organization of the MHS Education and Training (E&T) enterprise that meet the congressional intent:** Once we defined the current MHS training E&T enterprise, our next objective was to develop a set of options for consolidating the enterprise under DHA that would meet the congressional intent. In developing the options, we produced contrasting alternatives that would cover a range of approaches. In developing these approaches, we considered civilian academic E&T models (e.g., university and university systems), current models within the MHS and other DoD E&T areas, and examples from foreign military services.
3. **Provide an analytical framework that the Department may use to assess the feasibility and desirability of the options:** Our final objective was to produce an analytical framework for assessing the options. The analytical framework is

[11] Government Accountability Office (GAO), *MILITARY PERSONNEL: Additional Actions Needed to Address Gaps in Military Physician Specialties*, GAO-18-77 (Washington, DC: GAO, 2018), https://www.gao.gov/products/GAO-18-77.

based upon asking two simple questions: (1) Will the option make the enterprise more effective at achieving E&T objectives (effectiveness analysis)?, and (2) Will the option result in cost savings for the MHS (cost savings analysis)?

The remainder of this paper is structured as follows. Chapter 2 begins with a high-level overview of the MHS and the medical force to document the current structure of MHS components, in which the E&T stakeholders exist within the enterprise, and to provide an overview of medical E&T requirements. Chapter 3 builds on Chapter 2 by providing a detailed overview of the medical E&T enterprise and an in-depth summary of each of the key E&T stakeholders identified in Chapter 2. Chapter 4 provides an enterprise-wide summary analysis of all medical E&T activities, resources, and functions within the scope of this project. Chapter 5 introduces three alternative approaches (or models) for organizing the new DHA ETO. Chapter 6 presents an assessment of the options, and Chapter 7 concludes.

2. Overview of the Military Health System

A. Organization

The Military Health System is composed of personnel, infrastructure, and resources owned by DHA, the Office of the Assistant Secretary of Defense for Health Affairs (OASD(HA)) and the Military Departments. We discuss these organizations below and highlight the key E&T stakeholders within each. Chapter 3 will discuss each E&T stakeholder in much greater detail.

- **The Defense Health Agency (DHA):** DHA is a combat support agency established in 2014 to provide a host of shared services across the MHS with the goal of providing integrated and efficient service to the joint force.[12] The Education and Training Directorate (J7), a key medical E&T stakeholder, falls under DHA.
- **The Office of the Assistant Secretary of Defense for Health Affairs (OASD(HA)):** The OASD(HA) is under the jurisdiction of the Under Secretary of Defense for Personnel and Readiness (USD(P&R)). OASD(HA) is the principal staff element for all DoD health and force protection policies, programs, and activities. It is responsible for the effective execution of the dual medical missions. USU, a key medical E&T stakeholder, falls under the OASD(HA).[13]
- **The Military Departments:** Each of the Military Departments maintains a Service medical department headed by a Surgeon General. Each department—the Army Medical Command (MEDCOM), the Navy Bureau of Medicine and Surgery (BUMED), and the Air Force Medical Service (AFMS)—maintains a medical E&T command, which we will discuss in further detail in Chapter 3.[14]

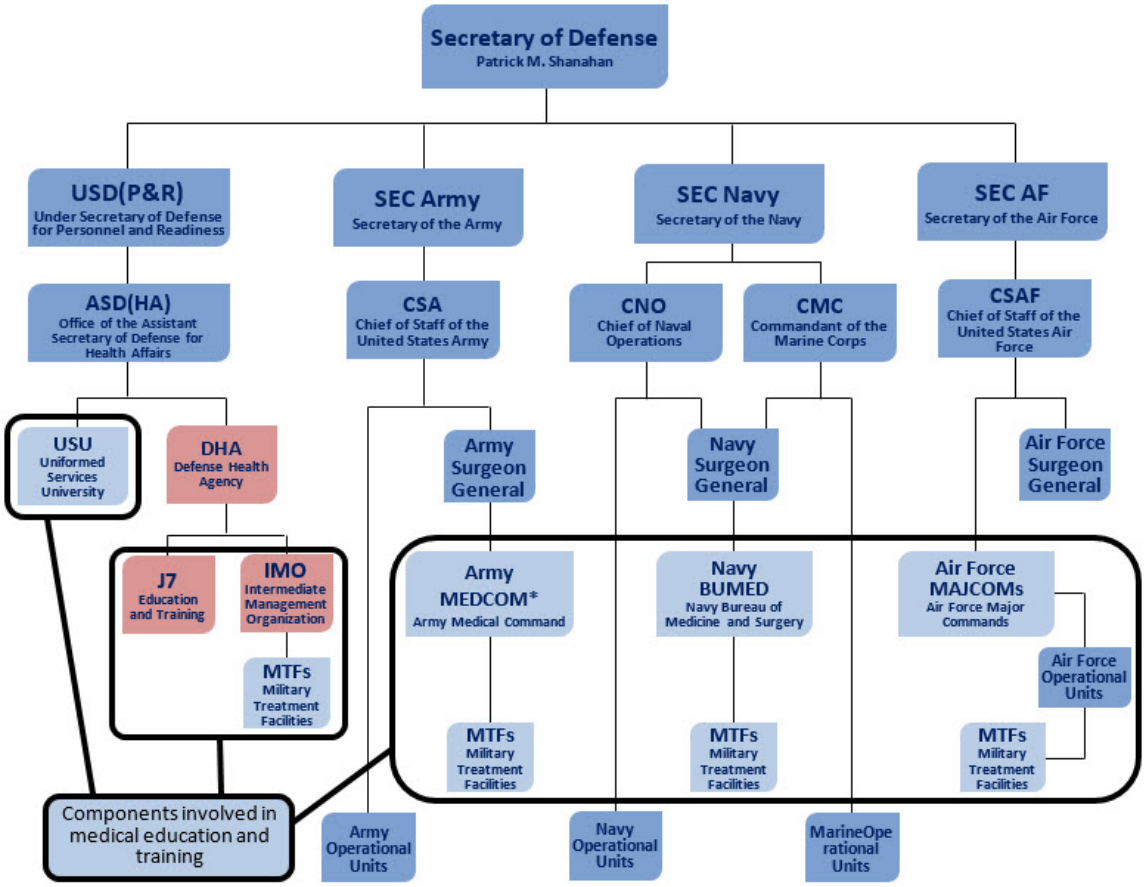
Figure 1 shows the current organization of the MHS. Components involved in medical E&T are highlighted. Chapter 3 discusses these key E&T stakeholders in greater detail.

---

[12] "Elements of the MHS: Defense Health Agency," Health.mil, https://health.mil/About-MHS/MHS-Elements.

[13] "Office of the Assistant Secretary of Defense for Health Affairs," Health.mil, https://health.mil/About-MHS/OASDHA.

[14] The Air Force medical E&T programs are not organized in a command structure (like the Army and Navy).



* Army MEDCOM has recently been disestablished. Army medical E&T is being realigned under the Army Training and Doctrine Command (TRADOC).

Figure 1. Governance Structure of the Military Health System

B. Medical Force

The Army, Navy, and Air Force each have a large medical force, which collectively total to nearly 190,000 personnel. Table 2 provides a summary of the total medical force by Service and component (Active Component (AC) versus Reserve Component (RC)).

Table 2. Total Medical Force, FY 2017

Component/Service	Officer	Enlisted	Total
Active	**36,827**	**78,222**	**115,049**
Army	15,467	32,932	48,399
Navy	10,580	25,499	36,079
Air Force	10,780	19,791	30,571
Reserve	**23,207**	**48,094**	**71,301**
Army National Guard	4,887	14,211	19,108
Army Reserve	10,721	19,072	29,793
Navy Reserve	2,396	4,389	6,785
Air National Guard	2,592	4,359	6,951
Air Force Reserve	2,611	6,053	8,664
Total	**60,034**	**126,316**	**186,350**

Source: Health Manpower Personnel Data System (HMPDS). Numbers in the table reflect end strength.

The officer and enlisted medical personnel are further divided into occupation-based medical corps. To provide a better understanding of the medical E&T requirements, we begin with an overview of the specialties that make up each corps and the education required to hold these specialty occupations.

1. Officer Medical Occupations

The Army, Navy, and Air Force each have a Medical, Dental, Nurse, and Medical Service Corps.[15] In addition to the Officer Corps common across the Services, the Army has an Army Medical Specialist Corps, a Veterinary Corps, and Warrant Officers. The Air Force has a Biomedical Sciences Corps.

To occupy a specialty in any of the officer medical corps, an individual must hold an undergraduate (bachelor's)—and often an advanced—degree in a medical field. For instance, all members of the Medical Corps are physicians and hold either a Doctor of Medicine (M.D.) or a Doctor of Osteopathic Medicine (D.O.) degree. Further postgraduate specialty-based E&T, such as an internship or residency, may also be required. Table 3 summarizes the occupational composition of the four medical corps common across each Service, including the initial degree requirements and graduate health education/residency requirements. Table 4 shows the same information for Service-specific officer corps.

[15] There are some differences in the occupation mix of the Corps common across Services—especially in the Medical Services Corps.

Table 3. Officer Medical Corps Common across the Services

Officer Medical Corps	Initial Degree	Graduate Health Education/ Residency
Medical Corps: Consists of physicians with various specialties (and sub-specialties).	4-year medical degree • Doctor of Medicine (M.D.) • Doctor of Osteopathic Medicine (D.O)	3–7 year graduate medical education (GME); post-residency fellowships may also be required
Dental Corps: Consists of dentists with various specialties (and sub-specialties.)	4-year dental degree • Doctor of Dental Surgery (D.D.S.) • Doctor of Medicine in Dentistry (D.M.D.).	No requirement, but typically 1–4 year graduate dental education (GDE) program
Nurse Corps: Consists of registered nurses (R.N.s) and nurse specialists with advanced nursing degree certifications (e.g., nurse anesthetist, nurse practitioner, nurse midwife, etc.)[a]	4-year nursing bachelor's degree • Registered Nurse (R.N.) 2–3 year advanced degrees • Nurse Anesthesia (CNRA) • Master's of Science in Nursing • Doctor of Nursing Practice (DNP) • Doctor of Philosophy in Nursing (Ph.D.)	The Services provide a mix of short nurse transition programs (<3 months) and longer residency programs for new nurses.
Medical Service Corps: Consists of a wide variety of medical specialties with some variation by Service. Occupations may include administrative specialists (administrators, comptrollers, logistic specialists, medical planners, etc.), scientists (microbiologists, biochemists, etc.), and clinicians (social workers, clinical psychologists, pharmacists, etc.)	Minimum: 4-year bachelor's degree in health field. Example degrees include: • Bachelor's degree in nutrition or dietetics • Bachelor's degree occupational therapy Graduate education also common. Example degrees include: • Master's of Social Work • Doctor of Philosophy in Clinical Psychology (Ph.D.)	Clinical occupations may require a residency-like program

Note: There are some differences in the occupations each Service includes in the Medical Service Corps.

[a] Civilian registered nurses may hold either an associate's or bachelor's degree in nursing. However, the military requires all nurses to hold a bachelor's degree.

Table 4. Service-Specific Officer Medical Corps

Medical Corps	Initial Degree	Graduate Health Education/ Residency
Veterinary Corps (Army Only)	4-year veterinary degree • Doctor of Veterinary Medicine (D.M.V.) • Veterinariae Medicinae Doctoris (V.M.D.)	No initial requirement, but Veterinary Corps officers may apply for Long-Term Health Education and Training programs leading to advanced degrees and board eligibility and certification, which can include residency programs
Army Medical Specialist Corps (Army Only): Consists of dieticians, occupational and physical therapists, and physician assistants. These specialties overlap with Navy specialties found in the Medical Service Corps and Air Force specialties found in the Biomedical Science Corps.	Minimum: 4-year bachelor's degree (or master's degree for OT) in a required specialty and as required for that specialty: • Have a current board certification, registration, and state licensure	Clinical occupations may require a residency-like program
Warrant Officers (Army Only): Consists largely of biomedical equipment maintenance and repair personnel and veterinary food technicians.	Must be selected for Warrant Officer School as a prior enlisted • Requires a high school diploma	Graduates of Warrant Officer School are sent to their respective U.S. Army branches to receive more technical training in specialty
Biomedical Science Corps (Air Force Only): Consists largely of clinicians (e.g., psychologists, social workers, physician assistants, pharmacists, etc.) and scientists (microbiology, environmental science, etc.) Many of these specialties overlap with Army and Navy specialties found in the Medical Service Corps.	Example bachelor's degrees include: • B.S. in Engineering • Bachelor's degree in a biological science Example Graduate Education required: • Master's of Social Work • Doctoral degree in Audiology	Clinical occupations may require a residency-like program

Table 5 shows the number of officers in each medical corps. The Medical, Nurse, and Medical Services Corps are the largest corps. Variation in the AC/RC mix across corps is noticeable.

Table 5. Officer Medical Force by Medical Corps, FY 2017

Corps	Active	Reserve	Total	Active Pct	Pct of Total Officers
Medical Corps	11,637	3,745	15,382	76%	26%
Dental Corps	3,184	1,605	4,789	66%	8%
Nurse Corps	9,531	7,957	17,488	55%	29%
Medical Services	8,279	6,966	15,245	54%	25%
Army Medical Specialist	1,332	1,671	3,003	44%	5%
Biomedical Sciences	2,184	850	3,034	72%	5%
Veterinary	524	360	884	59%	1%
Warrant Officers	156	53	209	75%	0%
Total Officers	**36,827**	**23,207**	**60,034**		

Source: HMPDS.

Officers generally receive their initial medical field degrees from the civilian sector before beginning military service (often through DoD scholarship programs or loan repayment programs that come with service obligations).[16] Most of these initial degrees are not provided directly in the MHS E&T enterprise (i.e., DoD does not run a dental school, veterinary school, or a bachelor's in nursing program). The main exception is the USU School of Medicine (SOM), whose students earn M.D. degrees as uniformed officers. USU also provides advanced nursing and dentistry degrees to officers through their Graduate School of Nursing (GSN) and the Postgraduate Dental College (PDC). Service-run schools such as the Army Medical Department Center and School (AMEDDC&S) also provide advanced degrees. DoD directly provides GME, GDE, and Graduate Health Education (GHE) in its MTFs, although some officers complete their residency training in civilian programs. This report will focus on the medical E&T provided directly by the MHS. However, Appendix B provides greater detail on the different programs that provide medical E&T through the civilian sector (e.g., scholarship programs and out-service GME).

[16] The Health Professions Scholarship Program (HPSP) is used to access newly trained physicians, dentists, nurses, and other medical officers. Appendix B provides greater detail and data on the HPSP program.

2. Enlisted Medical Occupations

The Army, Navy, and Air Force each maintain enlisted Medical and Dental Corps. The enlisted occupations within these corps generally parallel civilian technical medical occupations (e.g., paramedics, x-ray technicians, respiratory therapists), although they require additional military- or Service-specific training. Unlike officers, enlisted personnel generally do not possess any formal medical training before entering military service. After completing their Service's basic training, personnel selected for medical (or dental) enlisted occupations are sent to medical schoolhouses run directly by DoD for their technical medical E&T. The technical medical education provided in these schoolhouses is similar to the technical training provided in community colleges for civilian health science occupations and may provide credit hours towards associate degrees. However, as previously noted, there is also a military-unique aspect to the training.

Today, there are over 50 enlisted medical and dental occupations across the Services. The Health Manpower Personnel Data System (HMPDS) groups these into 25 general specialty categories (21 medical and 4 dental), some of which are Service-specific (e.g., veterinary techs and licensed practical nurses (LPNs), who are only found in the Army).

The largest specialty category by far is the "general medical care and treatment" category. This category includes the Army Combat Medics (68Ws), the Navy Corpsmen (HM-0000), and Air Force Technicians (4N0X1)—essentially each Service's first responders. Collectively, these "big-three" occupations account for nearly 50 percent of the enlisted medical force. Army 68Ws are the second largest military occupational specialty (MOS) in the Army, while Navy Corpsmen are the largest Navy Enlisted Classification (NEC). Table 6 provides a summary of the initial Phase I (classroom) and Phase II (clinical) training requirements for these three occupations. The remainder of the medical and dental enlisted corps includes a wide variety of clinician/technician occupations as well as several administrative/logistic occupations. For simplicity, we group these into three general categories (other medical clinicians/technicians, other medical logistic/administrative, and dental clinician/technicians) and present the range of Phase I and II requirements. These are also shown in Table 6.

Table 7 provides the number of enlisted medical personnel by occupation. The Army, Navy, and Air Force's big-three occupations are separately identified.

Table 6. Summary of the Enlisted Medical Force Training Requirements

Enlisted Medical Corps	Phase I Training	Phase II Training
Army Combat Medic (68W)	Training is conducted at METC • Course is 80 days in length • Graduates are certified to the national standards of Emergency Medical Technician (EMT-B)	Graduate is assigned to a unit • Can receive advanced medical training and specialize in a specific area
Navy Corpsman (HM-0000)	Training is conducted at METC • Course is 70 days in length • Graduates achieve entry-level (HM-0000) Basic Hospital Corpsman competencies	Training is conducted at MTFs, Veterans Affairs (VA), and/or civilian hospitals • Training is clinical in nature
Air Force Technician (4N0X1)	Training is conducted at METC • Course is 68 days in length • Graduates are certified to the national standards of Emergency Medical Technician (EMT-B)	Training is conducted at MTFs • Training is clinical in nature
Other Medical Clinician/Technician Occupations: Include enlisted personnel working in other clinical roles (e.g., respiratory therapy, ophthalmology, veterinary technicians, etc.), and ancillary services (laboratory, radiology, pharmacy, and physical therapy services).	Example course lengths: • Radiology Specialist: 168 days • Physical Therapy Specialist: 126 days • Respiratory Specialist: 196 days	Example course lengths: • Radiology Specialist: 154 days • Physical Therapy Specialist: 70 days • Respiratory Specialist: 112 days
Other Medical Logistic/Administrative Occupations	Example course lengths: • Health Services Management: 38 days • Patient Administration Specialist: 49 days • Medical Material Supervisor: 16 days	
Dental Clinician/Technician Occupation	Example course lengths: • Dental Assistant: 48 days • Dental Lab Technician: 166 days • Dental Hygienist: 730 days	

Table 7. Enlisted Medical Personnel by Occupation, FY 2017

Corps	Active	Reserve	Total	Active Pct	Total Enlisted Percent
General Treatment	31,231	25,955	57,186	55%	47%
Army	17,833	18,332	36,165	49%	30%
Navy	7,784	2,269	10,053	77%	8%
Air Force	5,614	5,354	10,968	51%	9%
Other Medical	41,572	15,402	56,974	73%	47%
Dental	5,419	2,377	7,932	68%	6%
Total	**78,222**	**43,734**	**122,092**	**64%**	**100%**

Source: HMPDS.

3. Overview of the Medical E&T Enterprise

The medical E&T enterprise is very large, complex, and decentralized. The first objective of this project was, therefore, to identify all the E&T stakeholders and programs within scope—those that could be included in the new DHA ETO. The congressional language in the FY 2019 NDAA provides a good starting point for this identification effort; it clearly identifies the following three entities as components of the new potential DHA-subordinate ETO.

- The Medical Education and Training Campus (METC) run by DHA
- The Uniformed Services University (USU)
- The medical E&T commands of the Armed Forces

Other medical E&T activities and functions already located within DHA were also naturally considered for inclusion. The final part of the language includes the phrase "and such other elements, facilities, and commands of the Department of Defense as the Secretary considers appropriate," which is quite broad. To limit our scope, we restrict our focus to Defense Health Program (DHP)-funded E&T activities within DHA or within the other components clearly identified in the language.[17] We note that most medical E&T activities still fall within this scope. Examples of programs outside the scope of this analysis include the specialized medical training provided by the United States Special Operations Command (USSOCOM) and other specialized training provided by the Service lines related to specific operational platforms. Non-DHP funded medical training conducted by local Reserve units is also outside the scope of this project.

Once the scope of the project was determined, we assembled a large inventory of the medical E&T activities within its purview. The purpose of this chapter is to provide an overview of the current medical E&T enterprise and the E&T activities captured by the inventory. In Section A, we introduce a simple taxonomy for classifying general types of medical E&T. We use this taxonomy to provide a high-level overview of the medical E&T activities occurring across the enterprise.

In Section B, we turn to providing an overview of each of the E&T components (DHA, USU, and each Service's medical E&T command). Please note that financial data is presented for FY 2017 unless otherwise noted, and student data is presented for FY 2018.

[17] Note difficulties with merger of line and DHP-funded activities.

Chapter 4 will present an enterprise-wide summary analysis of the medical E&T activities, resources, and common functions.

A. Taxonomy

To organize the hundreds of medical E&T programs within the scope of this project, we created a simple E&T taxonomy for classifying programs. The taxonomy has two main dimensions: a categorical dimension and a competency-based dimension. Classifying programs by type is useful for identifying like activities. Classifying programs by the competencies they produce is useful for thinking about where they might best align in the enterprise; e.g., medical E&T focused on general medical skills could be based in the civilian sector or USU, while E&T activities focused on very Service- or environment-specific skills should likely continue to reside with the Services. Putting these two dimensions together creates a useful framework for better understanding where the medical E&T enterprise's activities are concentrated. The taxonomy is used in Section B, where we discuss the E&T activities within each component, and in Chapter 4, where we present an enterprise-wide summary analysis.

1. Categories of Medical E&T

The IDA team classified medical E&T occurring across the MHS into three general categories—(1) initial, (2) sustainment, and (3) professional development—which we define below. In addition, Table 8 depicts further major sub-categories within the main categories and lists examples of programs in each sub-category.[18]

- **Initial:** E&T that is a prerequisite for holding certain medical occupations. For officers, this includes degree-granting E&T (e.g., medical school, dental school, nursing school) that may be provided directly through DoD or indirectly by civilian universities (through DoD scholarship programs). It also includes specialty and sub-specialty-awarding E&T (e.g., GME, GDE) and any other E&T that is a prerequisite for holding an occupation specialty in one of the officer medical corps. For enlisted personnel, initial E&T includes the technical Phase I and Phase II training that is a prerequisite for earning an Air Force Specialty Code, an MOS, or an NEC).
- **Sustainment:** E&T that is required to sustain and advance clinical skills. This category includes E&T focused on maintaining general clinical currency (e.g., occupation-based skills training, maintaining certificates/credentials, continuing education (CE) activities) and E&T focused on operational or readiness skills

[18] We do not provide a comprehensive list of programs under each category, as there are over 1,000 programs in our inventory. Individual programs can be found in the inventory database that accompanies this paper. Programs are organized by the categories and sub-categories shown in Table 8.

(e.g., Tactical Combat Casualty Care (TCCC), Advanced Life Support (ALS), the Air Force Center for the Sustainment of Trauma and Readiness Skills (C-STARS), the Army Trauma Training Course (ATTC), or the Navy Trauma Training Center (NTTC)).

- **Professional Development:** E&T that is required for the professional career development of military medical personnel. Professional development training provides leadership and management/executive skills required in a number of settings. This form of E&T is non-clinical in nature but it may be geared towards a specific specialty and/or position (e.g., entry-level executive nurse course, dental leadership, combined senior leader course) or a given function (e.g., practice management, total force management, or leadership and team building).

Table 8. E&T Categories, Sub-Categories, and Sample Courses

Category	Sub-Category	Description	Examples
Initial E&T	Technical Education and Training	The Phase I and Phase II enlisted training	• Combat Medic Specialist • Diagnostic Imaging
	Graduate or Professional Education	Programs that lead to a graduate or professional degree (e.g., M.D., Master's, Ph.D., etc.)	• Interservice Physician Assistant Program • US Army Graduate Program in Anesthesia Nursing • USU Doctor of Medicine
	Post-Graduate Education	Includes post-graduation specialty training GME, GDE, and GHE. This training is generally carried out in MTFs across the MHS.	• Internal Medicine Residency (NCR) • General Surgery Residency (Portsmouth, VA) • Advanced Education in General Dentistry (Bethesda, MD)
Sustainment E&T	Clinical Skills and Currency	Training that concerns clinical skill development or clinical currency. Clinical skills training is relevant for the operational mission (especially in treating Disease and Nonbattle Injury) but it is just as important in the MTF/ beneficiary care setting.	• Occupational Medicine Symposium • Nursing Practice Oversight Course
	Operational/Readiness	Training with a strong operational or military emphasis (e.g., combat casualty care, trauma, anything with "operational," "expeditionary," "readiness," "field" in the title)	• NTTC Program • Emergency War Surgery Course
Professional Development E&T	Leadership/Command Skills	Focuses on leadership, strategic planning, or military medical command.	• AMEDD Strategic Leaders Training • Joint EM Leadership Course
	Management/Executive Skills	Emphasizes healthcare management, administration, business processes/operations, and other management/executive skills.	• TRICARE Financial Management Executive Course • Total Force Manpower Course

Note: NCR – National Capital Region.

2. Competencies Gained through Medical E&T

The E&T provided through initial, sustainment, and professional development training results in the acquisition of two general sets of medical competencies required by all military medical personnel: (1) medical competencies, and (2) military medical competencies.[19] Military medical competencies can be further divided into general military medical competencies and environment/Service-specific competencies. Below we provide a definition of each:

- **Medical Competencies:** include the medical skills required for medical professionals belonging to various occupation groups or specialties (e.g., anesthesiologist, general surgeon, nurse, dentist, paramedic, x-ray technician). These skill requirements align to educational attainment (degrees and sub-specialty training) and/or professional licensing/certification or CE requirements. Medical competencies may be acquired in the civilian sector (many military physicians obtain their medical degrees in civilian medical schools) or within the MHS E&T enterprise (USU also trains physicians).
- **General Military Medical Competencies:** include medical skills that are heavily emphasized for all military medical personnel (e.g., combat casualty care and trauma training; basic life support training; and chemical, biological, radiological, nuclear, and explosive (CBRNE)).[20] As military medical personnel progress through their careers, this category expands to include basic military medical leadership and management/executive skills (e.g., MTF administration).
- **Environment- or Service-Specific Military Medical Competencies:** include medical skills that are environment- (e.g., aerospace, undersea, austere environment) or Service-unique (e.g., Shipboard Industrial Hygiene).

Classifying medical E&T programs by the type of competency they produce is challenging, as programs might not fit discretely into a single competency.[21] However, we find distinguishing between these sets of competencies provides a useful framework for thinking about where in the enterprise certain activities should align. We also note that some forms of training that have historically been Service-specific (e.g., MTF

---

[19] Military medical personnel also require military competencies. Military competencies (e.g., basic military skills) are provided by the line—they do not fall within the medical E&T enterprise.

[20] We note that trauma care and life support are not military-unique activities, but they are very heavily emphasized for military providers. In the MHS, they are often taught within a military operational context that would not be available in civilian training.

[21] For instance, the Uniformed Services University (USU) SOM produces M.D.s (primary focus on medical competencies), but USU students also receive military training (e.g., curriculum includes emergency war surgery, history of military medicine, and operational field exercise).

administration) may shift to the general military skills category as DHA takes over MTF administration.

3. Medical E&T Activities by Category and Competency Type

Throughout this paper, we will rely on two metrics to capture the volume of E&T activities falling into different categories:

- **Number of students:** the number of students enrolled in a specific program
- **Instruction-days:** the number of students enrolled in a specific program annually times the course's length (measured in training days).[22]

Number of students is useful for understanding the basic student volume and throughput for different E&T programs and/or general categories of E&T (initial, sustainment, professional development). However, it is not an intensity-adjusted metric (i.e., students enrolled in one-week courses are weighted the same as students enrolled in multi-year degree programs). Instruction-days is used as a second metric to capture E&T intensity. We note that we cannot identify unique students or instructions days unique to a particular student in our course count data. Individuals often take multiple training courses in one year, but we have no way of observing this in our data.

Table 9 shows the number of students and instruction-days by the three general categories of medical E&T activities (initial, sustainment, and professional development). The data indicate there are nearly 200,000 students enrolled in medical E&T across the enterprise.[23] By student volume, sustainment training is the largest category of medical E&T. Using the intensity-adjusted instruction-day metric, we see that initial training accounts for the large majority of training days (and that officer initial training is the largest group by far).

---

[22] We received data on the length of each training program (or course) included in the inventory. Course-length data were received in different formats (hours, days, weeks, and years, with days being most common). All course-length data were converted to a common metric (training days).

[23] Individuals are counted as students more than once if they take multiple courses in a given year.

Table 9. Student Volume by Medical E&T Category

Category	Students	Pct	Instruction-days	Pct
Initial	**29,478**	**15%**	**8,583,099**	**88%**
Enlisted	23,598	12%	2,672,109	27%
Officer	5,880	3%	5,910,990	60%
Sustainment	**141,331**	**73%**	**622,381**	**6%**
Enlisted	14,429	7%	136,250	1%
Officer	16,414	9%	219,327	2%
Officer and Enlisted	110,488	57%	266,804	3%
Professional Dev	**22,209**	**12%**	**572,275**	**6%**
Enlisted	10,126	5%	334,756	3%
Officer	7,979	4%	179,113	2%
Officer and Enlisted	4,104	2%	58,406	1%
Grand Total	**193,018**	**100%**	**9,777,755**	**100%**

Table 10 shows the number of students and instruction-days by the three general types of medical E&T competencies (medical, military medical (general), and military medical (specific)). Student volume is greatest in the general military medical competency category, but the intensity-adjusted instruction-days metric shows the majority of medical E&T is focused on providing medical competencies.

Table 10. Student Volume by Medical E&T Competency Type

Competency	Students	Pct	Instruction-days	Pct
Medical	**22,060**	**11%**	**6,111,320**	**63%**
Enlisted	3,035	2%	65,194	1%
Officer	15,857	8%	5,997,304	61%
Officer and Enlisted	3,168	2%	48,822	0%
Military Medical (General)	**137,762**	**71%**	**2,939,189**	**30%**
Enlisted	28,450	15%	2,636,638	27%
Officer	5,701	3%	72,121	1%
Officer and Enlisted	103,611	54%	230,430	2%
Military Medical (Specific)	**33,196**	**17%**	**727,247**	**7%**
Enlisted	16,668	9%	441,283	5%
Officer	8,715	5%	240,006	2%
Officer and Enlisted	7,813	4%	45,958	0%
Grand Total	**193,018**	**100%**	**9,777,755**	**100%**

Figure 2 uses both dimensions of the taxonomy (E&T category and medical competency) to illustrate where different E&T activities fall. The size of the circles is scaled based upon the number of instruction days.

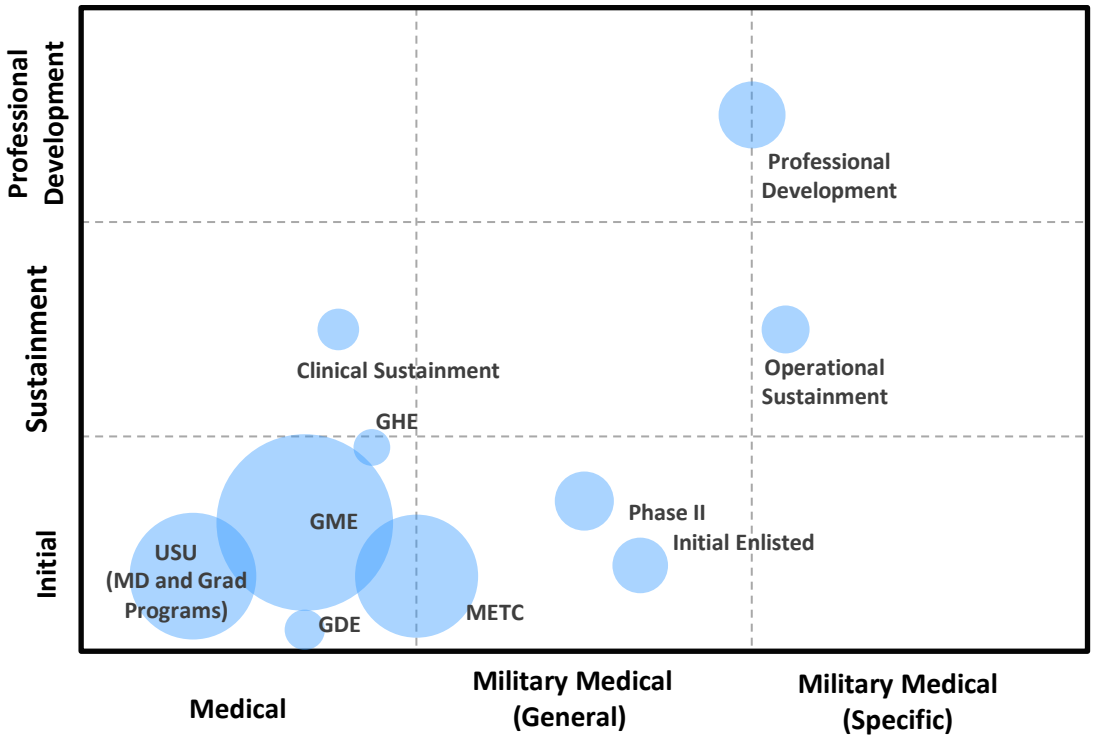


Figure 2. E&T Activities by Category and Competency, Measured in Instruction-days

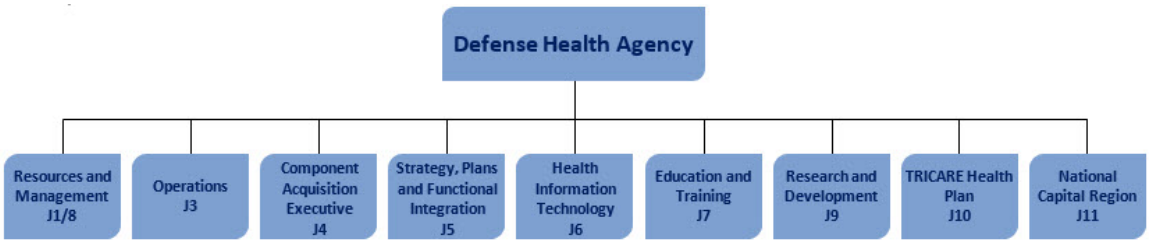
B. Components

In the following sections, we provide greater detail on the E&T stakeholders identified in Chapter 2. The discussion includes an overview of their missions, current organizational structure, capabilities, authorities, resources, and educational portfolios. Appendix A provides a more detailed discussion of E&T authorities for all components. We note that a significant amount of reorganization is occurring across the Service E&T components and DHA. We attempt to capture current organizational structures or at least note where additional reorganization is occurring (if the details were not fully available).

1. DHA

DHA was established in 2014 as a combat support agency providing a host of shared services across the MHS. Its goal is to provide integrated and efficient medical support to

the joint force.[24] Medical E&T is among the many shared services, functions, and activities in the MHS for which DHA exercises management responsibility.[25] Figure 3 shows the organization of DHA.



Source: "Defense Health Agency," Health.mil, https://health.mil/About-MHS/OASDHA/Defense-Health-Agency.

Figure 3. Defense Health Agency

When DHA was established in 2014, an Education and Training Directorate was created to house the DHA E&T mission. The purpose of this directorate was to lead standardized, high-value E&T across the MHS by implementing an enterprise-wide learning system that maximizes education resources in the areas of clinical services, operational medicine, and leadership development.[26] As the FY 2017 NDAA section 702 reforms required several organizational changes inside DHA, the Deputy Assistant Director, Education and Training (J7) was created, assuming all responsibilities of the former Education and Training Directorate. As currently configured, the J7 has six major subordinate activities or divisions: (1) Requirements Division; (2) Operations Division; (3) Leadership, Education, Analysis, Development and Sustainment Division (LEADS); (4) Defense Medical Readiness Training Institute (DMRTI); (5) the METC; and (6) the E&T MTF Division. Figure 4 shows the organization of the J7.

---

24 "Elements of the MHS," Health.mil.

25 DoD Directive (DoDD) 5136.13, "Defense Health Agency (DHA)," September 30, 2013, 4, https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodd/513613p.pdf.

26 Office of the Assistant Secretary of Defense (Health Affairs), "Education and Training Shared Services" (Washington, DC: Defense Health Agency, August 19, 2014), 1.

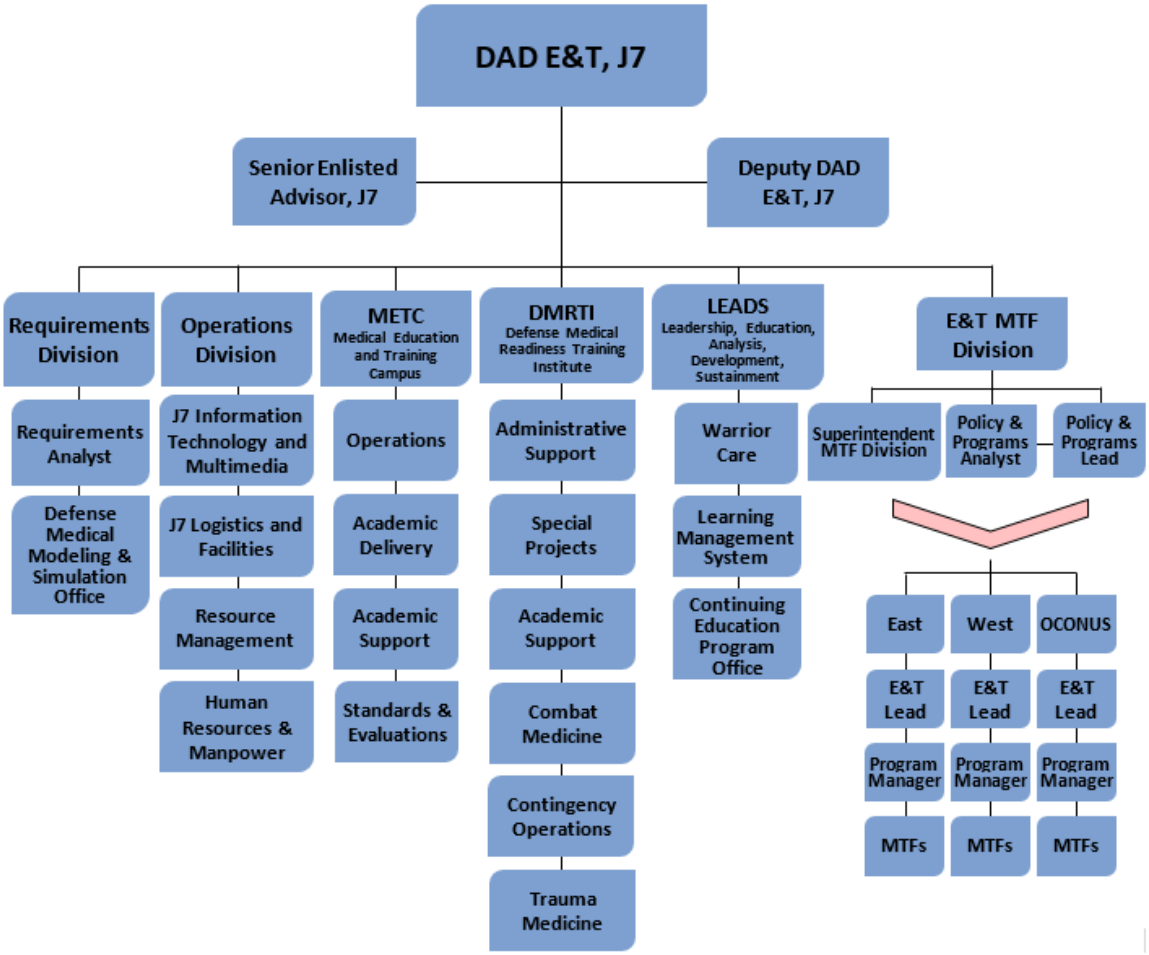


Figure 4. Defense Health Agency, Education and Training (J7)

The makeup of the current organization is the result of several internal and external factors, including congressional direction, base realignment and closure (BRAC) commission recommendations, Office of the Secretary of Defense (OSD) leadership discretion, general consolidation of MHS education functions, and movement of MTF management responsibilities from the military services to DHA. The following provides an overview of each DHA J7 subordinate activity.

a. Requirements Division

The purpose of the J7 Requirements Division is to consolidate training requirements assessment and determination with medical modeling and simulation (M&S) program management into a single organizational entity. The mission of the Defense Medical Modeling and Simulation Office (DMMSO) is to serve as the lead organization for the centralized management of shared Service medical M&S capabilities with solutions to support medical E&T in the MHS. The DMMSO supports development, management, and

integration of requirements, capabilities, and systems to promote the use of medical M&S to improve medical readiness, quality of care, patient safety, and efficiency.[27]

The DMMSO was established through a Joint Requirements Oversight Council (JROC) Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities, and Policy (DOTMLPF-P) Change Recommendation (DCR) in 2016 that recognized the requirement for an integrated medical M&S approach within the MHS to support E&T. DHA was tasked as the lead organization to coordinate and implement the recommendations in the DCR, with annual updates to the Force Support Functional Capabilities Board, which later codified responsibilities and authorities through DoD Instruction (DoDI) 6000.18, Medical Modeling and Simulation Requirements Management, in August 2018.[28]

b. Operations Division

The purpose of the J7 Operations Division is to provide broad support in the day-to-day management of the entire J7 organizational structure in areas such as information technology, logistics and facilities support, resource management, and manpower. When fully matured, the Operations Division will largely execute the central management support functions across the other divisions of the J7.

c. LEADS

Formerly known as the Joint Medical Executive Skills Institute (JMESI), LEADS is the proponent of military medical executive skills core competencies that support leadership development and improve organizational effectiveness, by providing educational programs, products, and services, including management of the DHA Learning Management System (LMS) and educational solutions for non-medical care managers supporting wounded, ill, or injured service members and their families.[29] The core responsibilities of LEADS include:

- Joint Medical Executive Skills Program
- LMS
- Warrior Care Training and Outreach Programs

Much of the focus of LEADS is on medical executive skills development through a variety of resident and distance-learning course offerings supporting 36 core competencies

---

[27] Ruben Garza, Jr., "Defense Medical Modeling and Simulation Office (DMMSO)," 2, Brief, FOUO, n.d.

[28] DoD Instruction (DoDI) 6000.18, "Medical Modeling and Simulation Requirements Management," August 22, 2018, https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/600018p.pdf?ver=2018-08-22-072116-810.

[29] Ruben Garza, Jr., "DHA/J7/LEADS Division Mission Brief," Brief, 2018.

in areas such as Military Medicine, Leadership and Organizational Management, Health Law/Policy, Health Resources Allocation, Ethics in the Health Care Environment, Individual and Organizational Behavior, and Performance Measurement and Improvement.

LEADS also supports the DHA LMS, which contains hundreds of web-based and instructor-led courses on a variety of topics relevant to the mission of the MHS. In addition, LEADS sponsors courses supporting warrior care E&T that are designed to improve the implementation of care, management, and transition support for wounded, ill, and injured Service members. Finally, LEADS is also establishing a CE program office to provide enterprise-wide CE activities to support licensure requirements of military and civilian health professionals across the MHS.

d. DMRTI

The mission of DMRTI is to enhance operational and sustainment capabilities through joint, interagency, intergovernmental, and multinational medical training. While aligned under DHA, DMRTI is a Tri-Service organization staffed by medical professionals from all three Services, DoD civilians, and contractors, offering resident, non-resident, and distance-learning medical readiness courses, with the goal of improving coordination of readiness training efforts between military and civilian organizations.[30] DMRTI offers a variety of readiness-related courses in areas such as:

- Combat and Trauma Medicine
- Contingency Medical Operations
- Disaster Medicine/Incident Command System
- CBRNE Emergency Preparedness Response

The Joint Medical Readiness Training Center (JMRTC), which preceded DMRTI, was responsible for training thousands of medical department officers. JMRTC expanded in scope and mission to become DMRTI, which operated under the direction and guidance of the Deputy Assistant Secretary of Defense for Health Affairs/Force Health Protection and Readiness (DASD(HA)FHP&R) before coming to DHA J7 in 2014.[31]

e. METC

The mission of METC is to "train medics, corpsmen, and technicians to be the world's finest purveyors of their technical craft, to operate and excel within their Service-specific

---

[30] "Defense Medical Readiness Training Institute (DMRTI): Mission Brief," Brief, November 6, 2018, FOUO.

[31] "Defense Medical Readiness Training Institute," Health.mil, https://health.mil/About-MHS/OASDHA/Defense-Health-Agency/Education-and-Training/Defense-Medical-Readiness-Training-Institute.

cultures—who understand and can execute their roles in a joint environment."[32] METC, located at Fort Sam Houston in San Antonio, TX, was established through the 2005 BRAC process that directed the collocation of enlisted medical E&T across the Service medical departments. The campus currently encompasses approximately 1.1 million square feet of medical instructional facilities, dormitories/barracks, student support facilities, and administrative/ faculty/leadership buildings.

METC offers 49 different programs of instruction supporting approximately 5,500 students on any given day, or about 16,500 annually, who attend various programs. The programs are concentrated on enlisted medical training for entering corpsmen (Navy), medics (Army), or airmen (Air Force), in addition to basic and advanced technical training across a full spectrum of ancillary, dental, healthcare support, nursing, and public health services.[33] For the most part, enlisted members of the Armed Forces are required to attend basic and/or advanced medical training provided at METC to gain the appropriate code(s) necessary for personnel assignment to technical medical positions in the field (deployed) or at MTFs (garrison). METC is supported by approximately 1,200 military and civilian faculty and operating staff, with an annual operating budget of approximately $31 million per year.

Since inception, METC has made significant progress in consolidating programs of technical instruction across the Service medical departments. Of the 49 programs offered, 36 have been consolidated across more than one Service, with more than half of those (20) consolidated across all three Service medical training pipelines.[34] While only 13 of the 49 programs remain as single-Service specific training, those programs are the largest concentrations of entering medical personnel in the Army (Combat Medic), Navy (Hospital Corpsman basic), and Air Force (Aerospace Medical Apprentice), which represent just over 50 percent of the total student population.

Therefore, while much consolidation across programs and Services has been accomplished to date, the majority of METC student load continues to operate in Service-specific training programs for entering Army, Navy, and Air Force medical personnel. These initial training programs operate largely as Service-run training centers inside METC with Service-assigned instructors who directly control curriculum and training requirements. In addition, the students themselves (and most faculty) are not actually assigned to METC, but rather, to Service-specific training units (battalions, squadrons, or

---

[32] Jack Davis (Col.), "Medical Education and Training Campus," (brief, Fort Sam Houston, TX, December 11, 2018).

[33] Medical Education & Training Campus Program Catalog Committee, *Medical Education & Training Campus 2017-2019 Program Catalog* (Fort Sam Houston, TX: DoD, 2018), https://www.metc.mil /Catalog/METC_Catalog.pdf.

[34] Davis, "Medical Education and Training Campus."

detachments) for administrative control and military discipline. Staff refer to this arrangement as the "daycare model," in which students attend METC courses during the day, but return to their respective Service training units at the conclusion of class each evening.

f. E&T MTF Division

With the anticipated transfer of management and administration of MHS MTFs from the military services to DHA, the J7 will establish an MTF division whose primary responsibilities will include overseeing requirements and resource sharing across MTFs (i.e., training, equipment, simulation, instructor support) in support of MHS goals and objectives for E&T. Once established, this division will provide headquarters policy and oversight support to regional- and facility-level staff for execution/delivery of medical E&T programs and functions.

g. DHA J7 Summary

DHA trains over 100,000 students annually through over 200 different programs (or courses).[35] The courses included in the DHA E&T portfolio range from one-day leadership trainings to enlisted specialty courses lasting close to one year.

Table 11 summarizes the DHA E&T activities by the categories and sub-categories used in the E&T taxonomy. The data indicate that sustainment E&T accounts for the greatest volume of students. However, using the intensity-adjusted metric, the majority of DHA E&T activities fall into the initial training category (when measured by student days). Because the Services provide the instructors, students, and curriculum, we also indicate how many students attend METC from each Service. This is relevant for considering E&T resources, as METC resources come from DHA and each Service.

[35] We believe the data shown in Table 11 undercount DHA students in sustainment and professional development training. We received information on the existence of several sustainment and professional development programs without student count data. The largest impact is likely in professional development, for which we received a list of 35 JMESI courses without student enrollment information.

Table 11. DHA E&T Activities by Category and Sub-Category

	Programs	Students	Instruction-days	Pct
Initial	**102**	**16,826**	**1,840,815**	**96%**
Phase I* (enlisted)	102	16,826	1,840,815	96%
Army	33	7,991	905,145	47%
Navy	28	5,113	708,606	37%
Air Force	41	3,722	227,064	12%
Sustainment*	**57**	**100,707**	**73,082**	**4%**
Clinical	15		Missing	
Operational/Readiness	42	100,707	73,082	4%
Professional Development*	**47**	**153**	**459**	**<1%**
Leadership	N/A			
Management/Executive Skills	47	153	459	<1%
Total	**206**	**117,686**	**1,914,356**	

* Phase I training is conducted at METC. We provide student counts by Service. Fifteen clinical sustainment programs were identified but no student count data were available. These were largely short (less than one day) courses. We did not receive student volume data for 35 of the 47 professional development courses. These were all JMESI courses.

Table 12 shows the resources DHA allocates to medical E&T. These include Operations and Maintenance (O&M) and Military Personnel (MILPERS). We also provide a count of personnel.

Table 12. DHA E&T Resources

	Budget ($)			Personnel	
Component	**O&M**	**MILPERS**	**Total**	**Faculty**	**Staff**
LEADS	3,476,430	0	3,476,430	11	3
DMTRI	1,947,000	9,129,096	11,076,096	71	26
METC	31,032,999	14,341,489	45,374,488	209	79
HQ Other	9,865,000	11,034,111	20,899,111	0	113
Total	**46,321,429**	**34,504,696**	**80,826,125**	**291**	**221**

Notes: Student compensation is not included in MILPERS cost. The Majority of METC faculty belong to the Services. This table only includes DHA personnel attached to METC. O&M includes CIVPERS.

2. The Uniformed Services University (USU)

The mission of the Uniformed Services University (USU) is to educate, train, and comprehensively prepare uniformed services health professionals, scientists, and leaders to support the Military and Public Health Systems, the National Security and National

Defense Strategies of the United States, and the readiness of our Uniformed Services. USU reports to the Assistant Secretary of Defense for Health Affairs (ASD(HA)), pursuant to DoDD 5136.01. Under the authority, direction, and control of the USD(P&R), the ASD(HA) exercises authority, direction, and control over USU; develops policies and procedures for the university's operation and oversight; and implements such policies and procedures pursuant to DoDD 5136.01. The president of USU is appointed by the Secretary of Defense and reports directly to the ASD(HA). Figure 5 displays the USU organization chart.

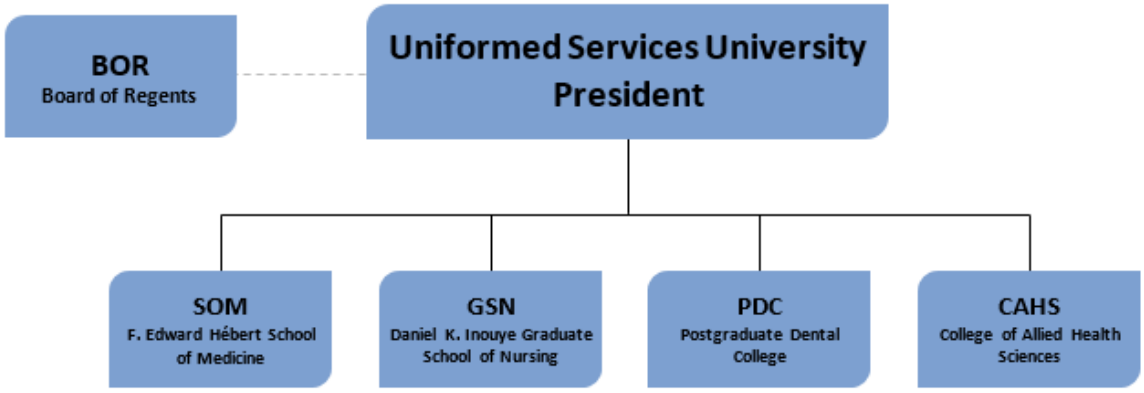


Figure 5. USU Organization Chart

When USU was first chartered in 1972, the University consisted only of the medical school, but it has since expanded to contain the Daniel K. Inouye GSN (established in 1993), PDC (established in 2010), and College of Allied Health Sciences (CAHS) (established in 2016) to meet the continued needs of DoD. With this expansion, the University now provides multiple healthcare E&T programs to Service members. In addition to the four professional schools, the University houses 14 research centers and the Armed Forces Radiobiology Research Institute. Several research centers provide additional shorter training courses spanning diverse realms ranging from global health engagement to safe opioid prescribing. The University's dedication to research and education places it at the forefront of military health. The sections below provide a brief overview of the University's schools and centers.

a. F. Edward Hébert School of Medicine (SOM)

The F. Edward Hébert SOM is the nation's only federal school of medicine. The school provides the nation with health professionals dedicated to career service in DoD and the US Public Health Service and with scientists who serve the common good. The SOM flagship education program trains and educates physicians through an academically rigorous curriculum combined with 800 additional hours of training in military science, combat casualty care, tropical medicine, global health, ethics, operational medicine, and

leadership. In addition to the M.D. program, the SOM offers graduate education programs in biomedical sciences, public health, healthcare administration, and health professions education.[36]

b. Daniel K. Inouye Graduate School of Nursing (GSN)

The mission of the Daniel K. Inouye GSN is to "provide the nation with the highest-quality advanced practice nurse clinicians, scientists, and scholars dedicated to federal health service and health readiness."[37] The school began in 1993, offering a family nurse practitioner program, but has since grown in size and scope. Now, the GSN offers a Doctor of Nursing Practice (DNP) in the following five tracks: nurse anesthesia, family nurse practitioner, adult gerontology clinical nurse specialist, women's health nurse practitioner, and psychiatric mental health nurse practitioner. The GSN also offers an M.S. in Nursing (MSN) in adult gerontology and a Ph.D. in Nursing Science.[38]

c. Postgraduate Dental College (PDC)

The Postgraduate Dental College is "charged with educating dentists as future leaders in military operational environments, federal health systems, and university settings."[39] The PDC grants academic credit to uniformed dentists completing select GDE residency programs through the three Service postgraduate dental schools. The PDC affiliation permits graduates of residency programs to receive a Master of Science in Oral Biology degree upon the completion of program and degree milestones. Currently, 20 dental residency programs across seven MTFs are affiliated with USU's PDC. In addition to its credit awarding activities, the PDC provides academic support to 10 Air Force General Dentistry Certificate Programs.

d. College of Allied Health Sciences (CAHS)

The mission of CAHS is to "educate and train highly competent personnel qualified and dedicated to serving the needs of the uniformed services of the United States."[40] CAHS is closely affiliated with METC, run by DHA in conjunction with the three Services. The College exists to fulfill the E&T credentialing requirements that are prerequisite to

---

[36] "About the School of Medicine," USU, School of Medicine, https://www.usuhs.edu/medschool/about.

[37] "Mission, Vision, Guiding Principles and Strategic Plan," USU, Graduate School of Nursing, https://www.usuhs.edu/gsn/mission.

[38] "Daniel K. Inouye Graduate School of Nursing," USU, Graduate School of Nursing, https://www.usuhs.edu/gsn.

[39] "About the PDC," USU, Postgraduate Dental College, https://www.usuhs.edu/pdc/about.

[40] "About the College of Allied Health Sciences," USU, College of Allied Health Sciences, https://www.usuhs.edu/cahs.

professional practice within the MHS and civilian sector. CAHS awards academic credit for enlisted training already occurring at METC. Currently, three METC programs are eligible for academic credit (Nuclear Medical Technician, Medical Laboratory Technician, and Preventive Medicine Technician), with six additional programs in the approval stages. The College confers two important benefits to the MHS. First, as professional credentialing organizations elevate minimum educational requirements for allied health professionals, CAHS is able to help the enterprise ensure that its personnel meet professional standards for their respective fields. Second, it provides a valuable education benefit to enlisted personnel. CAHS is composed of two schools. The School of Undergraduate Studies administers an Associate's of Science in Health Sciences and a Bachelor of Sciences in Health Sciences degrees. The School of Graduate Studies plans to offer a Master of Science degree.

e. USU Summary

USU trains approximately 1,300 students annually through over 24 different programs. USU's shortest program, a certificate program in Tropical Medicine and Travelers' Health is roughly three months long, while the M.D. degree program and several Ph.D. programs are four years or longer. Table 13 summarizes USU's E&T activities by the categories and sub-categories used in the E&T taxonomy.

Table 13. USUHS Medical E&T Activities by Category and Sub-Category

Category/Sub-Category	Programs	Students	Instruction-days	Pct
Initial	**24**	**1,129**	**1,554,210**	**91%**
Graduate/Professional (officer)	23	1,079	1,520,960	89%
SOM	16	885	1,326,416	77%
GSN	7	194	194,544	11%
Other (non-degree/transition)	1	50	33,250	2%
Sustainment	**3**	**185**	**132,104**	**8%**
Clinical	N/A			0%
Operational/Readiness	3	185	132,104	8%
Professional Development	**3**	**38**	**27,664**	**2%**
Leadership				
Management/Executive Skills	3	38	27,664	2%
Total	**30**	**1,352**	**1,713,978**	

Note: CAHS and PDC students are captured in DHA and Service run courses that provide the actual training for the degree earned from CAHS/METC.

The data indicate that initial E&T accounts for the large majority of USU E&T activities. Within the initial training category, USU focuses almost solely on providing

graduate degree programs. The largest program is the M.D. degree program in the SOM, which produces around 170 graduates annually.

USU does not provide any Phase I or Phase II enlisted training, but it does run an enlisted-to-medical degree preparatory program (EMDP2). As previously discussed, the CAHS and PDC provide academic credit and degrees for enlisted personnel and dentists based on the training they undergo within the MHS.

Table 14 shows the total O&M and MILPERS resources for each USU component. Personnel counts are also reported.

Table 14. Medical E&T Resources

	Budget ($)			Personnel	
Component	**O&M**	**MILPERS**	**Total**	**Faculty**	**Staff**
SOM	80,042,212	25,801,165	105,843,377	304	164
GSN	5,389,552	5,284,693	10,674,245	42	13
CAHS	684,066	0	684,066	0	3
PDC	519,060	233,013	752,073	1	3
HQ/Other	103,435,197	14,832,023	118,267,220	20	463
Total	**190,070,088**	**46,150,894**	**236,220,982**	**367**	**646**

Note: Student compensation is not included in MILPERS cost. Research, Development, Test and Evaluation (RDT&E) and extramural research funding is not included in the data above.

3. Military Service Medical Departments

As discussed in Chapter 2, each Military Department delivers Service-specific medical E&T under the authority, direction, and control of the respective Surgeon General (Army and Navy) or as principal medical advisor across multiple Major Command mission areas (Air Force). The Marine Corps does not maintain an organic medical capability or personnel. They rely on Navy medical personnel for medical support. The next three subsections provide a brief overview of the medical E&T capabilities for each of the three Services.

a. Army

AMEDDC&S Health Readiness Center of Excellence (HRCoE) is located at Fort Sam Houston, TX. Its mission is to envision, design, train, educate, and inspire the world's premier military medical force to enable readiness and strengthen America's Army.[41]

[41] Patrick D. Sargent, "USAMEDDC&S Health Readiness Center of Excellence Command Brief," 3, Brief, December 2018.

AMEDDC&S is the largest accredited Service school, supporting 35 to 40 thousand graduates annually with 192 programs of instruction. In addition, the school is where Army Medicine formulates its future medical organization, tactics, doctrine, and equipment requirements to enable medical readiness. AMEDDC&S has the authority and responsibility for developing medical readiness and health concepts, identifying medical readiness and health capability gaps, and defining or refining future soldier medical and health requirements established by TRADOC.

AMEDDC&S traces its lineage to the Medical Field Service School (MFSS) established in 1920 at Carlisle Barracks, Pennsylvania. The mission of MFSS was to train doctors, dentists, and nurses in their duties as Army officers. In 1924, MFSS began providing professional courses to noncommissioned officers and privates first class. MFSS moved to Fort Sam Houston in 1946, and a reorganization in 1972 resulted in the re-designation of the MFSS as the Academy of Health Sciences, consolidating the Army's medical training within US Army Medical Command (USAMEDCOM). In 1991, the command was re-designated as AMEDDC&S, with the Academy of Health Sciences becoming the school arm of AMEDDC&S. In February 2015, the Department of the Army designated AMEDDC&S as the Army's HRCoE. As of October 19, 2018, AMEDDC&S HRCoE was reassigned from USAMEDCOM to TRADOC.[42]

While AMEDDC&S is a large and complex organization supporting multiple mission sets for the Army, the focus of the current project was on the actual student training activities delivered at the school. Those organizations are shown in Figure 6 and described below.

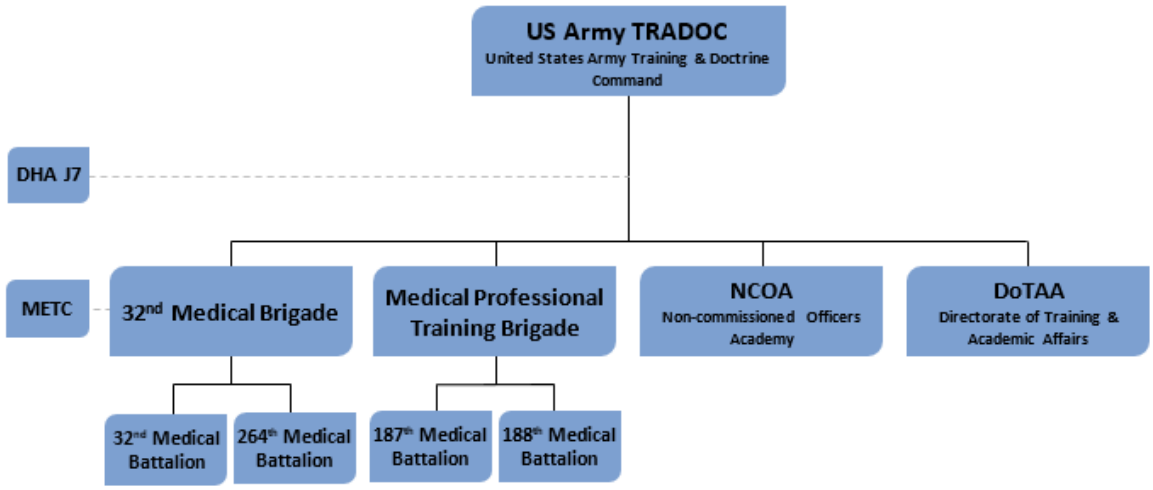


Figure 6. Army Medical Education and Training Command

[42] "About the U.S. Army Medical Department Center and School Health Readiness Center of Excellence (AMEDDC&S HRCoE)," AMEDDC&S HRCoE, https://www.cs.amedd.army.mil/about_amedd.aspx.

1) Directorate of Training and Academic Affairs (DoTAA)

DoTAA provides administrative support to all AMEDDC&S programs and students. The primary function of this directorate is faculty support for the comprehensive development of programs of instruction and course material. AMEDDC&S is accredited by the Council of Occupational Education, with all programs of instruction reviewed by the American Council on Education. Students attending courses at the AMEDDC&S can earn undergraduate and graduate credits, with the Graduate School conducting seven doctoral and five master's degree programs.[43]

2) 32nd Medical Brigade

The 32nd Medical Brigade is composed of two enlisted medical battalions, representing the largest concentration of students assigned to METC programs. While enlisted students attend a variety of health service programs at METC, the largest concentration of Army soldiers appears in the Army Combat Medic (68W) course of instruction. The METC Army Combat Medic course is taught almost entirely by AMEDDC&S instructors, for Army enlisted personnel only, as the course remains a single-Service program within the collocated METC framework.

3) Medical Professional Training Brigade

The Medical Professional Training Brigade is composed of two medical battalions of students attending various AMEDDC&S officer programs of instruction. Programs supported are largely organized into a company structure within the battalions corresponding to specific leadership, graduate studies, pre-hospital medicine, health readiness, allied health sciences, nursing, or aviation medicine courses of study. Generally, the education programs support a broad range of leadership, readiness, or professional development needs that convey an MOS, to enable officer graduates to fill positions requiring specific educational requirements.[44] The select AMEDDC&S also educates officers for the other Services for select degree programs including the Army-Baylor Master in Healthcare Administration and the Army-Baylor Doctor of Physical Therapy programs. Note that degrees are awarded typically through affiliation agreements with civilian universities, although AMEDDC&S faculty directly execute trainings.

---

[43] "Directorate of Training and Academic Affairs," AMEDDC&S HRCoE, https://www.cs.amedd.army.mil/dtaa.aspx.

[44] "Medical Professional Training Brigade – 'Train the Team!'" AMEDDC&S HRCoE, https://www.cs.amedd.army.mil/acad_medbde.aspx.

4) Noncommissioned Officers Academy (NCOA)

NCOA provides sergeants, staff sergeants, and sergeants first class with the technical, tactical, and leadership/trainer skills necessary to be successful in Army operations as squad/platoon sergeants and first sergeants in Career Management Field 68 (medical). Leadership and professional skills are reinforced in a blended learning environment enhanced by technology. Courses consist of resident, mobile training, and distributed learning platforms designed to influence and provide the leadership foundation essential to growing a highly trained and effective noncommissioned officer fighting force.[45]

5) Additional AMEDDC&S Activities

In addition to the direct training and training support organizations discussed above, AMEDDC&S also provides specialized support to the Army Medical Department through other organizations, in broad areas such as personnel (AMEDD Personnel Proponent Directorate), operational test and evaluation (Army Medical Department Board), and capabilities development (Capability Development and Integration Directorate).[46]

6) Army Summary

The Army trains approximately 43,000 students annually through over 325 different programs (or courses). The courses included in the Army E&T portfolio range from one-day seminars to multi-year specialty training.

Table 15 summarizes the Army E&T activities by the categories and sub-categories used in the E&T taxonomy. The data indicate that sustainment and professional development E&T account for the greatest volume of students. However, using the intensity-adjusted metric, the majority of Army E&T activities fall into the initial training category (when measured by instruction-days). By this metric, GME is by far the largest initial training category, followed by Phase II enlisted training and Phase I enlisted training (not including the METC-based training). Relative to the other Services, the Army provides the most graduate/professional training (sometimes to Navy and Air Force students).

---

[45] "NCOA Institute of Excellence," AMEDDC&S HRCoE, https://www.cs.amedd.army.mil /ncoa_new.aspx.

[46] "About the U.S. Army Medical Department Center and School Health Readiness Center of Excellence," AMEDDC&S.

Table 15. Army Medical E&T Activities by Category and Sub-Category

Category/Sub-Category	Programs	Students	Instruction-days	Pct
Initial	**325**	**4,999**	**1,840,913**	**71%**
Phase I* (enlisted)	12	1,486	241,934	9%
Phase II (enlisted)	152	1,590	251,762	10%
Graduate/Professional (officer)	15	391	170,905	7%
GME (officer)	58	720	923,820	35%
GDE (officer)	17	80	67,160	3%
GHE (officer)	58	378	158,837	6%
Other (non-degree/transition)	13	354	26,495	1%
Sustainment	**189**	**18,904**	**247,268**	**9%**
Clinical	137	12,711	141,193	5%
Operational/Readiness	52	6,193	106,075	4%
Professional Development	**137**	**18,912**	**520,280**	**20%**
Leadership	84	14,240	457,805	18%
Management/Executive Skills	53	4,672	62,475	2%
Total	**651**	**42,815**	**2,608,461**	

* Phase I training does not include training conducted at METC.

7) Army E&T Resources

Table 16 summarizes the aggregate resources of the Army E&T command. The Army employs nearly 2,000 personnel in its medical E&T command and has nearly $300 million in O&M and MILPERS. It is by far the largest of the Service E&T commands in terms of student volume and resources.

Table 16. Army E&T Resources

	Service Budget Data ($)			Personnel	
	O&M	MILPERS	Total	Faculty	Staff
Army E&T Command	124,095,603	158,775,875	282,871,478	975	949

b. Navy

Navy Medicine Education, Training, & Logistics Command (NMETLC) is headquartered at Fort Sam Houston, TX. NMETLC is an Echelon III-level command under

BUMED.[47] The mission of NMETLC is to deliver professional occupational and operational education, training, and logistics solutions to support the Navy Medicine mission. NMETLC is responsible for four geographically dispersed Echelon IV training support or professional development centers delivering medical programs of instruction, leadership development, and readiness training for Navy personnel along with a logistics command charged with providing expeditionary medical logistics support for military medicine.[48]

Figure 7 provides a general overview of NMETLC and its subordinate activities.

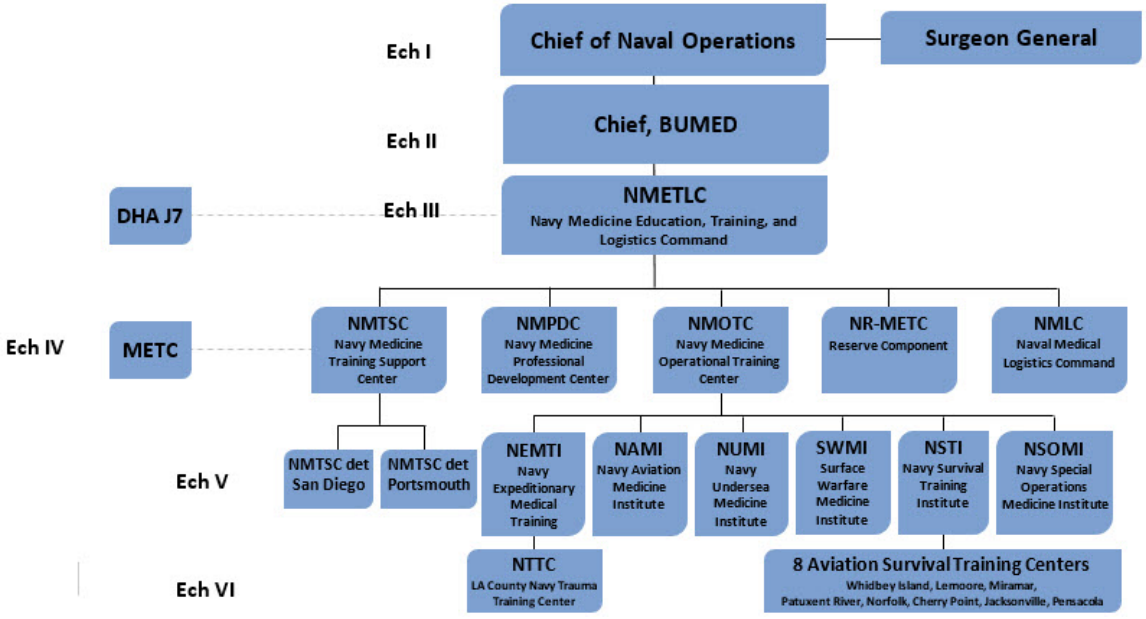


Figure 7. NMETLC Organization Chart

1) Navy Medicine Training Support Center (NMTSC)

NMTSC is the Navy component command that provides administrative and operational control over Navy staff and students assigned to METC and other medical programs in the San Antonio area. At any given time, NMTSC has over 2,500 students and over 500 instructors/support staff onboard. In addition to coordinating 23 clinical rotations at military, VA, and civilian medical treatment facilities, NMTSC has two detachments

---

[47] "Welcome Aboard!" NMETLC (Navy Medicine Education, Training and Logistics Command), https://www.med.navy.mil/sites/nmetc/SitePages/WELCOME.aspx.

[48] NMETLC, "Welcome Aboard," Brief, Fort Sam Houston, TX, December 12, 2018, 2.

located at Naval Medical Center San Diego and Naval Medical Center Portsmouth that support the clinical phases of advanced corpsman schools.[49]

2) Navy Medicine Professional Development Center (NMPDC)

NMPDC is the hub for Navy Medicine's health services support professional development training and education mission, spanning the globe through collaborative relationships with more than 200 military and civilian education activities. NMPDC provides professional military education opportunities to officers and enlisted personnel of Navy Medicine to advance career development or improve operational readiness. NMPDC is an Echelon IV command located in Bethesda, Maryland, directly reporting to NMETLC.[50]

3) Navy Medicine Operational Training Center (NMOTC)

NMOTC provides operational medicine survival training for aviation, surface, undersea, expeditionary, and special operations personnel. NMOTC is made up of 600 medical personnel at six detachments/institutes spread across 17 training sites in eight states. The six institutes are (1) Navy Expeditionary Medical Training Institute, (2) Navy Aviation Medicine Institute, (3) Navy Undersea Medicine Institute, (4) Surface Warfare Medicine Institute, (5) Navy Special Operations Medicine Institute, and (6) Navy Survival Training Institute (NSTI). The NSTI trains approximately 20,000 naval aviators or aircrew annually at eight Aviation Survival Training Centers collocated at each major Naval Air Station throughout the continental United States.[51]

4) Navy Reserve Medical Education and Training Center (NR-METC)

NR-METC develops programs and resources for professional development and billet-based training requirements to support Navy Reserve Medicine (NRM) personnel. NR-METC directs the NRM exportable versions of the Trauma Nursing Core Course, Tactical Combat Casualty Care Course, and other direct operational support training for NRM personnel. In addition, NR-METC provides professional development and leadership courses tailored to NRM personnel through instructor-led or computer-based training.

---

[49] "Navy Medicine Training Support Center: About," NMTSC, https://www.med.navy.mil /SITES/NMTSC/Pages/default.aspx.

[50] "Welcome to NMPDC," NMPDC, https://www.med.navy.mil/sites/nmpdc/Pages/index.aspx.

[51] "Welcome to NMOTC," NMOTC, https://www.med.navy.mil/sites/nmotc/Pages/default.aspx.

5) Naval Medical Logistics Command (NMLC)

NMLC's mission is to deliver patient-centered logistics solutions for military medicine. NMLC is not a training command as are most of the other activities under the NMETLC umbrella of activities, but rather a logistics organization specializing in material medical or contracting support for Navy Medicine and operating forces through three primary subordinate activities or detachments: (1) NMLC Detachment of the US Army Medical Materiel Center (Germany), (2) Navy Expeditionary Medical Support Command (Williamsburg, Virginia), and (3) Naval Ophthalmic Support and Training Activity (Yorktown, Virginia).[52]

6) Navy Summary

The Navy trains approximately 13,000 students annually through over 100 different programs (or courses). The courses included in the Navy E&T portfolio range from one-day seminars to multi-year specialty training.

Table 17 summarizes the Navy E&T activities by the categories and sub-categories used in the E&T taxonomy. The data indicate that sustainment and professional development E&T account for the greatest volume of students. However, using the intensity-adjusted metric, the majority of Navy E&T activities fall into the initial training category (when measured by instruction-days). By this metric, GME is by far the largest initial training category, followed by Phase I enlisted training (not including the METC-based training) and Phase II enlisted training.

[52] "Chain of Command: NMLC Organizational Structure," NMLC, https://www.med.navy.mil /sites/nmlc/Pages/AU-ChainofCommand.aspx.

Table 17. Navy Medical E&T Activities by Category and Sub-Category

Category/Sub-Category	Programs	Students	Instruction-days	Pct
Initial	**111**	**1,821**	**1,135,484**	**95%**
Phase I* (enlisted)	19	574	109,052	9%
Phase II (enlisted)	20	406	69,040	6%
Graduate/Professional (officer)	6	29	15,173	1%
GME (officer)	43	727	886,440	75%
GDE (officer)	17	52	48,180	4%
GHE (officer)	1	14	5,362	<1%
Other (non-degree/transition)	5	19	2,237	<1%
Sustainment	**148**	**9,374**	**40,886**	**3%**
Clinical	66	1,775	6,889	1%
Operational/Readiness	82	7,599	33,997	3%
Professional Development	**29**	**1,601**	**12,821**	**1%**
Leadership	18	810	6,805	1%
Management/Executive Skills	11	791	6,016	1%
Total	**288**	**12,796**	**1,189,191**	

* Phase I training does not include training conducted at METC

7) Navy E&T Resources

Table 18 summarizes the aggregate resources of the Navy E&T command. The Navy employs over 200 personnel in its medical E&T command and has over $100 million in O&M and MILPERS.

Table 18. Navy E&T Resources

	Service Budget Data ($)			Personnel
	O&M	MILPERS	Total	Faculty and Staff
Navy E&T Command	66,084,182	46,997,000	113,081,182	221

c. Air Force

The mission of the Air Force Medical Service (AFMS) is to develop warrior medics through patient-centered care by working directly for the line Air Force with multiple E&T centers running in parallel to support specific Major Command missions. AFMS E&T is decentralized and predominantly nested inside line Air Force E&T structures. Figure 8 provides a general overview of the AFMS E&T framework and commands.

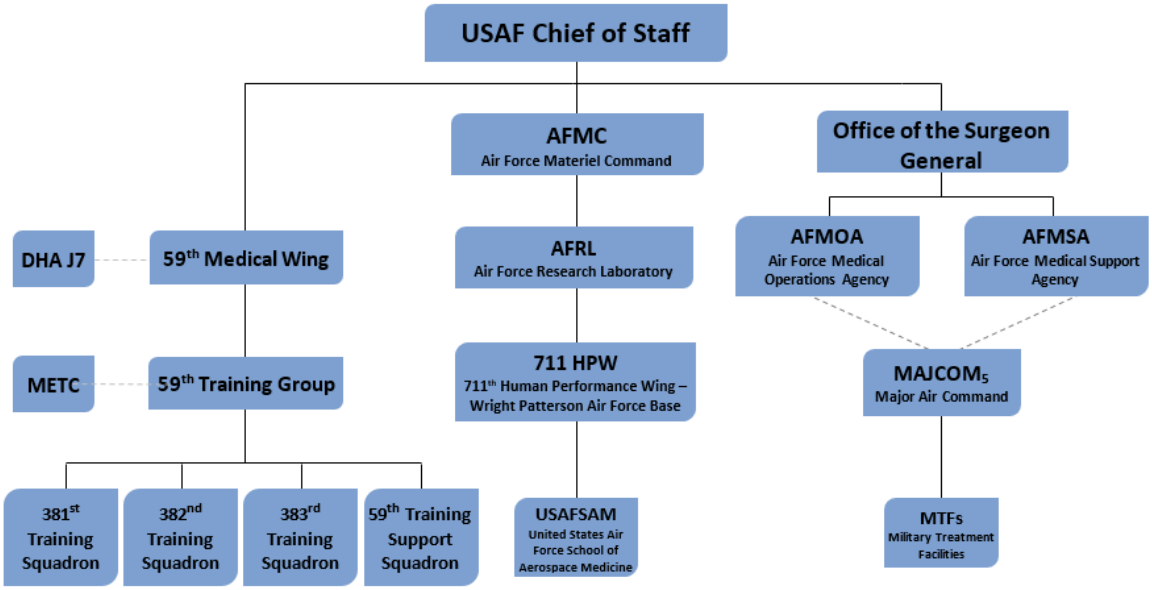


Figure 8. AFMS Organization Chart

1) 59th Medical Wing

The 59th Medical Wing is a subordinate activity of the Air Education Training Command located on Joint Base San Antonio (JBSA)-Lackland. The mission of the 59th Medical Wing is to be the Air Force's premier healthcare, medical education, research, and readiness wing.[53] While the 59th Medical Wing's mission is very broad, including patient care at Wilford Hall Ambulatory Surgical Center on Joint Base Lackland, the wing also supports a wide range of E&T activities in coordination with the San Antonio Military Medical Center and METC, both located on Joint Base San Antonio-Fort Sam Houston (JBSA-Fort Sam Houston). The 59th Medical Wing's postgraduate medical education functions are consolidated with the Army's under the San Antonio Uniformed Services Health Education Consortium (SAUSHEC), which supports roughly 900 residents in 37 GME programs.

2) 59th Training Group

The wing's 59th Training Group, on JBSA-Fort Sam Houston, supports military medical service and medical readiness training for 12,000 students annually at DHA's METC. The group awards 24 Air Force specialty codes and 93,000 Community College of the Air Force credit hours annually, while maintaining 14 national accreditations. The group is composed of three student squadrons and one training support squadron to provide administrative and operational support to staff and students assigned to METC and other

---

[53] "About 59th Medical Wing," 59th Medical Wing, https://www.59mdw.af.mil/About/.

medical education programs in the San Antonio area, including management of the 125-acre Medical Readiness Training Center located on Camp Bullis, San Antonio.

3) US Air Force School of Aerospace Medicine (USAFSAM)

USAFSAM is a part of the 711th Human Performance Wing under the Air Force Research Laboratory on Wright-Patterson Air Force Base in Ohio. The mission of USAFSAM is to optimize and sustain airmen health and performance through world class education, expert consultation, and operationally focused research.[54] USAFSAM trains approximately 6,000 students annually, including flight surgeons, nurses, and allied health professionals, through a combination of didactic and laboratory experiences designed to prepare medical personnel for duties in support of aerospace medicine in the Air Force. The school also supports geographically dispersed units embedded with civilian trauma programs throughout the country under the C-STARS programs, which prepare airmen for deployment through immersive training at various regional shock trauma or air evacuation training centers to build skills and clinical currency, and practice critical care in advance of deploying to a combat environment.

4) Air Force Medical Operations Agency (AFMOA)

AFMOA supports the AF Surgeon General by providing expertise needed for policy development, resource optimization, and clinical excellence in the AFMS. In this capacity, AFMOA supports policy development for E&T programs in support of MTF operations, oversight of AFMS LMSs, emergency medical system program management, and advanced education fellowships. AFMOA supports Major Commands (MAJCOMs) and MTFs with resources, clinical expertise, and data analysis necessary to support patient care. From an E&T perspective, AFMOA manages medical competency assessments, verification, and orientation standards for MTFs in the AFMS.

5) Air Force Medical Support Agency (AFMSA)

Located at the Defense Health Headquarters (DHHQ) in Falls Church, Virginia, AFMSA provides direct comprehensive consultative support and policy development for the AF Surgeon General in medical force management issues, including E&T requirements of AF medical personnel.

6) Air Force Summary

The Air Force trains approximately 17,000 students annually through over 100 different programs (or courses). The courses included in the Air Force E&T portfolio range

---

[54] "711 HPW – USAF School of Aerospace Medicine (USAFSAM)," Wright-Patterson AFB, https://www.wpafb.af.mil/afrl/711hpw/USAFSAM/.

from one-day seminars to multi-year specialty training (e.g., orthopedic surgery residency, general surgery residency, etc.).

Table 19 summarizes the Air Force E&T activities by the categories and sub-categories used in the E&T taxonomy. The data indicate that sustainment and professional development E&T account for the greatest volume of students. However, using the intensity-adjusted metric, the majority of Air Force E&T activities fall into the initial training category (when measured by instruction-days). By this metric, GME is by far the largest initial training category (56 percent of instruction-days), followed by Phase II enlisted training and GDE.

Table 19. Air Force Medical E&T Activities by Category and Sub-Category

Category/Sub-Category	Programs	Students	Instruction-days	Pct
Initial	**114**	**3,467**	**696,541**	**83%**
Phase I* (enlisted)	7	762	24,719	3%
Phase II (enlisted)	54	1,910	103,727	12%
Graduate/Professional (officer)	13	276	23,945	3%
GME (officer)	24	391	464,580	56%
GDE (officer)	17	134	81,760	10%
GHE (officer)				
Other (non-degree/transition)				
Sustainment	**149**	**12,161**	**129,042**	**15%**
Clinical	71	2,622	62,680	7%
Operational/Readiness	77	9,533	64,172	8%
Professional Development	**37**	**1,505**	**11,051**	**1%**
Leadership	3	82	740	<1%
Management/Executive Skills	34	1,423	10,311	1%
Total	**300**	**17,133**	**836,634**	

* Phase I training does not include training conducted at METC.

7) Air Force E&T Resources

Table 20 summarizes aggregate Air Force E&T resources. The Air Force currently employs over 300 personnel in support of their medical E&T mission. Total O&M and MILPERS resources exceed $60 million annually.

Table 20. Air Force E&T Resources

	Service Budget Data ($)			Personnel
	O&M	MILPERS	Total	Faculty and Staff
Air Force E&T Command	23,382,411	41,422,889	64,805,300	340

4. Analysis of Medical E&T Enterprise

Chapter 3 introduced a taxonomy for classifying various forms of medical E&T activities. It also provided an overview of each of the main E&T stakeholders including their missions, organizational structure, budgetary resources and personnel, and capabilities. In this chapter, we present an enterprise-wide analysis of medical E&T using the framework introduced in Chapter 3. The analysis has three main objectives:

- **Provide an overview of the total volume of medical E&T activities by categories/sub-categories and by competency.** This will help the reader better understand the relative size of different activities and where each component focuses their largest E&T efforts. As part of this analysis, we discuss where consolidation has already occurred in medical E&T activities. The analysis should also help identify like activities that may be good candidates for consolidation.
- **Provide an overview of the total resources allocated to medical E&T activities by component (and sub-components when possible).** This will help the reader better understand the current allocation of resources to different E&T stakeholders, and to some degree, different E&T activities. The analysis contains both a top-down and bottom-up analysis. The aim of this analysis is to verify that the more detailed data provided by each stakeholder can be reconciled with top-level data from budget.
- **Provide an overview of the common E&T functions shared across the enterprise.** This will help the reader better understand the duplication of E&T capabilities across the enterprise. As part of this analysis, we discuss several functional analyses already performed by USU and DHA, and how large civilian university systems typically centralize certain E&T capabilities.

A. Medical E&T Activities

1. Initial Training

As previously discussed, initial training accounts for nearly 90 percent of medical E&T volume (measured in instruction-days). Below we explore the various sub-categories of initial training (Phase I, Phase II, GME, etc.) by personnel category and component.

a. Enlisted Initial Training

Enlisted initial training accounts for approximately 30 percent of initial E&T instruction-days. There are two main enlisted sub-categories in our taxonomy: Phase I training (largely classroom-based) and Phase II training (generally MTF-based). A third very small category of enlisted initial training is the "Enlisted to Medical Degree Preparatory Program (EMDP2)" run by USU. This program prepares enlisted personnel to attend medical school. Table 21 shows enlisted initial E&T volume by these sub-categories and component. Following the table, we discuss opportunities that may exist for consolidating each E&T activity sub-category across components.

Table 21. Enlisted Initial E&T Volume by Sub-category and Component

	Students	Instruction-Days	Pct
Phase I	**19,648**	**2,216,520**	**83%**
DHA	16,826	1,840,815	69%
Army	1,486	241,934	9%
Navy	574	109,052	4%
Air Force	762	24,719	1%
Phase II	**3,900**	**422,339**	**16%**
Army	1,590	251,762	9%
Navy	406	69,040	3%
Air Force	1,904	101,537	4%
EMDP2	**50**	**33,250**	**1%**
Total	**23,598**	**2,672,109**	

Phase I Training: DHA provides the large majority of Phase I training at METC (as the result of the 2005 BRAC discussed in Chapter 3). The remainder of Phase I training is provided by the Services at various sites across the country. Phase I training provided by the Services tends to be Service- or platform- specific (e.g., the Navy provides the "Submarine Force Independent Duty Corpsman" program in Groton, CT and a "Deep Sea Diving Independent Duty Corpsman" course in San Diego). These programs could be periodically reviewed for consolidation opportunities but, given their specialized nature, there may be little benefit to further consolidation.

Phase II Training: Phase II training is generally conducted by each Service in the MTFs. As the training is MTF-based, many training sites are required to spread out the student volume and provide hands-on clinical experience. As DHA assumes management of the MTFs, there may be opportunities to centralize management of some aspects of Phase II training or to centrally provide certain E&T resources/services (e.g., faculty/ instructor training and support, learning resources, etc.). Opportunities will largely depend on how specific each occupation's training is to its service (e.g., whether Air Force x-ray

technicians and respiratory therapists learn different skill sets than their Navy counterparts during Phase II training). Consolidated METC Phase I training courses would probably be the best initial candidates for Phase II consolidation.

b. Officer Initial Training

Officer initial training accounts for 70 percent of initial E&T instruction-days. There are three main officer initial E&T sub-categories in our taxonomy: graduate/professional training, postgraduate training (GME, GDE, GHE), and other (non-degree). Table 22 shows enlisted initial E&T volume by these sub-categories and component. Following the table, we discuss opportunities that may exist for consolidating each E&T activity sub-category across components.

Table 22. Officer Initial Training E&T Activities by Sub-Category and Component

	Students	Instruction-days	Pct
Graduate/Professional	**1,775**	**1,730,983**	**29%**
USU	1,079	1,520,960	26%
Army	391	170,905	3%
Navy	29	15,173	0%
Air Force	276	23,945	0%
GME	**3,074**	**3,789,976**	**64%**
Army	720	923,820	16%
Navy	727	886,440	15%
Air Force	391	464,580	8%
Joint	1,236	1,515,136	26%
GDE	**266**	**197,100**	**3%**
Army	80	67,160	1%
Navy	52	48,180	1%
Air Force	134	81,760	1%
GHE	**392**	**164,199**	**3%**
Army	378	158,837	3%
Navy	14	5,362	0%
Other (non-degree/transition)	**81**	**16,678**	**0%**
Army	354	26,495	0%
Navy	19	2,237	0%
Grand Total	**5,880**	**5,910,990**	

Graduate/Professional Education: Graduate programs account for just under 30 percent of initial officer training. USU is by far the largest provider of graduate education. Of the three Services, Army provides the most graduate education. Army's largest

programs include the Interservice Physician Assistant (PA) program and the Army-Baylor Graduate Program in Anesthesia Nursing (USAGPAN). Graduate programs are a strong area for consolidation. These programs tend to be weighted more towards medical competencies and are often Tri-Service. There are also clear examples of duplication. For example, USU and Army both run a nurse anesthesia program that leads to a Doctor of Nursing Practice (DNP) degree. While both programs are very well regarded—ranked #4 (USU) and #8 (Army) by U.S. News & World Report—some may question why there are two programs within the MHS.[55] In Chapter 6, we explore whether consolidating graduate programs would provide an economic benefit.

GME: GME programs collectively account for nearly 65 percent of officer initial instruction-days.[56] These programs are run by MTF-based residency program directors who report to their Service's GME director, who reports to the Service Medical Corps chief—outside of Service medical E&T commands. Around 60 percent of GME students attend programs overseen by their own Service (single-Service programs). There are also several joint or Tri-Service programs. These are overseen by two large consortia: (1) the National Capital Consortium (NCC), which spans part of Maryland, Northern Virginia, and the District of Columbia; and (2) SAUSHEC, in Texas. In addition to MHS-run programs, some military personnel conduct their GME training in the civilian sector. Our data do not comprehensively capture these "out-service programs."[57]

Each Service must develop its own requirement for specialty training (i.e., the number of students needed for each specialty). Incoming applicants from USU and HPSP civilian medical schools are then reviewed and scored by a Joint Selection Board. Once the scoring is completed, each Service has its own approach for determining the placement of residents into particular programs. According to a 2018 USU SOM report, outside of the consortia, it is fairly uncommon for a single-Service program to take an applicant from another Service (e.g., for a Navy applicant to attend an Army program).[58] Maintaining single-Service programs may limit opportunities available to applicants within the MHS. Military GME programs must also meet the same ACGME requirements faced by civilian

---

55 "Best Nursing-Anesthesia (CRNA) Schools," U.S. News & World Report, https://www.usnews.com /best-graduate-schools/top-health-schools/nurse-anesthesia-rankings.

56 GME provided by the civilian sector is not included in this percentage. More information on out-service GME programs is provided in Appendix A.

57 Two options exist for attending civilian GME programs: (1) civilian-sponsored out-service programs in which the student attends a civilian residency program while receiving active duty pay and benefits, and (2) civilian deferred residency programs in which the students attend civilian residency programs as civilians receiving civilian resident compensation.

58 USU School of Medicine (SOM), "Strengthening Oversight and Organization of Graduate Medical Education in the Military Health System: Analysis and Options" (Bethesda, MD: USU Defense Health Horizons, June 2018), Pre-decisional.

programs. ACGME imposes restrictions on the number of program slots (based on workload availability), sub-specialties that must be offered, and faculty requirements.

GME programs are very costly to operate—recent estimates have put the cost around $200,000 per student.[59] High costs and concern over whether programs are aligned to produce the specialties in greatest demand to support the operational mission led to congressionally directed GME reform. Specifically, Section 749 of the 2017 NDAA directed the Secretary of Defense to establish and implement a process to provide oversight into the Service-run GME programs. The process was to ensure programs were aligned to the operational medical requirements and to minimize duplication of efforts.

In response to this requirement, the Department established a 749 workgroup, which delivered a report entitled *Report on Oversight of Graduate Medical Education Programs of Military Departments*.[60] The report noted that the DHA director was the official responsible for GME oversight and described a GME Oversight Advisory Council (OAC) that would be created to provide advice and assistance to the Director. The Council reports through the Deputy Assistant Director for Medical Affairs. The report noted that the Council was designed to support each Service's Title 10 authority. A Tri-Service GME Integration Board (IB) was also established and charged with coordinating GME across the MHS and providing a forum for increased communication, collaboration, and joint strategic planning for military GME. The solution to GME oversight provided by the 749 report received Tri-Service concurrence and is only just being implemented. A recent GAO study found the new GME oversight process addressed each of the 2017 NDAA requirements, but noted implementation plans were not fully developed.[61]

Because GME falls outside of the Service E&T commands (it resides with the Service Medical Corps Chiefs and the Surgeons General (SGs)) and because the OAC model is in very early implementation stages, the IDA team chose not to consolidate or realign Service GME programs under the new DHA ETO (or to change the OAC processes). However, the organizational options we discuss in Chapter 5 will suggest an ideal place for the OAC within the organization's structure in order to maximize the integration of GME within the broader E&T enterprise of the MHS.

---

[59] A recent Boston Consulting Group (BCG) analysis found a cost per student of $218,000. BCG, "MHS Graduate Medical Education (GME)," presentation, December 2017.

[60] Under Secretary of Defense (Personnel and Readiness) (USD(P&R)), *Report on Oversight of Graduate Medical Education Programs of Military Departments: Final Report* (Washington, DC: DoD, 2018) (also known as the Section 749 report).

[61] GAO, "DEFENSE HEALTH CARE: DoD's Proposed Plan for Oversight of Graduate Medical Education Programs," GAO-19-338 (Washington, DC: GAO, March 2019), https://www.gao.gov/products/GAO-19-338.

The 2018 USU SOM report noted several strengths of the 749 report's oversight model, including preservation of Service Title 10 authorities, Service-specific acculturation of residents, and increased communication among Services through the OAC.[62] However, several weaknesses were also noted—many relating to the fact that strong Service control of GME programs would perpetuate the status quo and resist further integration and joint resourcing.

GDE: GDE is the dental corollary to GME. A key difference, however, is that a dental residency is not required in order to practice dentistry. The American Dental Association currently recognizes 10 dental specialties.[63] Each Service maintains a portfolio of GDE programs administered through their respective postgraduate dental schools. Currently, the Services offer 11 postgraduate dental programs, ranging from one-year Advanced Education in General Dentistry programs to four-year programs in Oral and Maxillofacial Surgery. GDE accounts for around 3 percent of initial instruction annually. Appendix C includes data on the number of students in each GDE specialty.

GHE: Graduate Health Education consists of clinical practicums for many graduate allied health programs. GHE includes the clinical portions of graduate degree programs in nutrition, physical therapy, nursing, and for physician assistants. GHE programs range from one to two years in duration across various MTFs. Collectively, GHE accounts for 3 percent of initial instruction.

2. Sustainment E&T

Sustainment training accounts for just over 70 percent of the total medical E&T student volume (measured by number of students) but only 6 percent when measured by instruction-days. Sustainment training is generally much shorter than initial training; courses range from one day to over one year, but the majority of courses are one month. Unlike initial training, a large share of sustainment training (just over 40 percent) is conducted in combined courses (attended by both enlisted and officers). Our taxonomy split sustainment training into two general categories—clinical sustainment and readiness/ operational training. We found that for officer-only sustainment training, clinical sustainment training accounted for the majority of instruction-days (roughly 70 percent), while enlisted personnel spent more time in operational/readiness sustainment training (roughly 75 percent). Clinical sustainment training was provided solely by the Services while operational/readiness sustainment training was provided by all components. The large majority of combined courses were operational readiness courses provided by DHA (DMRTI). Several USU certificate programs (e.g., preventative medicine, global health,

---

[62] USU SOM, "Strengthening Oversight and Organization of Graduate Medical Education."

[63] "Specialty Definitions," National Commission on Recognition of Dental Specialties and Certifying Boards, https://www.ada.org/en/ncrdscb/dental-specialties/specialty-definitions.

and tropical medicine) also accounted for many instruction-days. Table 23 summarizes sustainment E&T activities by sub-category (clinical or operational/readiness), personnel type, and component.

Table 23. Sustainment E&T Activities by Sub-Category, Personnel Type, and Component

	Students	Instruction-Days	Pct
Total Clinical	**17,114**	**212,952**	**34%**
Enlisted Only	3,026	32,518	5%
Army	1,237	20,589	3%
Navy	1,532	5,355	1%
Air Force	257	6,574	1%
Officer Only	10,328	152,626	25%
Army	8,242	95,949	15%
Navy	243	1,534	<1%
Air Force	1,843	55,143	9%
Combined (Officer/Enlisted)	3,760	27,808	4%
Army	3,232	24,655	4%
Air Force	528	3,153	1%
Total Operational/Readiness	**124,217**	**409,430**	**66%**
Enlisted Only	11,403	103,732	17%
Army	3,711	74,531	12%
Navy	4,227	15,487	2%
Air Force	3,465	13,714	2%
Officer Only	6,086	66,702	11%
DHA	1,202	6,024	1%
Army	1,194	19,981	3%
Navy	1,746	11,139	2%
Air Force	1,944	29,558	5%
Combined (Officer/Enlisted)	106,728	238,996	38%
DHA	99,505	67,058	11%
USU	185	132,104	21%
Army	1,288	11,563	2%
Navy	1,626	7,371	1%
Air Force	4,124	20,900	3%
Grand Total	**141,331**	**622,381**	**100%**

a. Clinical Sustainment

Training required to advance clinical skills and currency, or maintain credentials, is essential for medical professionals to practice at the highest levels. The broad range of training activities covered in this sub-category make disciplined consolidation challenging, but does present opportunities for efficiency gains, standardization, or enhanced offerings that would give military staff, particularly officers, access to training that might otherwise be unavailable. For example, most medical specialists are required to earn a certain amount of CE credits each year to maintain licensure. As a single Service with fewer potential participants, the medical specialty associations may be less likely to provide military personnel relevant CE opportunities. When membership interest is combined across all three Services, the specialty associations may be more willing to sponsor military-specific training sessions or develop specific military readiness content in a particular medical specialty. In addition, a central CE program office may remove redundancy or provide a consolidated menu of training opportunities across a range of learning modalities (e.g., webinars, workshops, conferences) not efficiently offered through a single military Service E&T organization.

b. Operational/Readiness

Medical training focused on operational or readiness skills lies at the heart of why DoD keeps military providers in uniform. Being able to provide life-saving medical services in a variety of hostile environments is foundational to the MHS mission. Not only do military medical personnel have to be proficient in clinical aspects of care delivery, but they must understand the effects of environmental factors, military medical platforms, and risk management for care delivered in an operational environment. Each Service has developed and supports trauma training programs for their specific operational requirements. Unlike other forms of didactic training, where courses are constrained by facility or staffing limitations, Service trauma training programs face the limitations of civilian trauma caseload. From a case-bound point of assessment, cost efficiency considerations should be subordinate to exposing the maximum number of military medical personnel to the most diverse and severe case mix possible before deployment. While DoD has made, and continues to make, tremendous progress in delivering joint courses and content supporting combat medicine and trauma through DMRTI, classroom and field training alone cannot completely prepare medical personnel for deployment. Readiness training must be complemented with an experiential base of trauma caseload to ensure wounded personnel receive the best possible care on the battlefield. This may require greater placement of military personnel in civilian trauma systems, even though this will reduce their contribution to beneficiary care mission.

Due to the large student count density (70 percent) with relatively small instruction-day density (6 percent) of sustainment training, a closer examination by competency may

prove useful. Table 24 below provides a breakout of sustainment training by competency and component consistent with the taxonomy developed in Chapter 3. The distribution of instruction-days appears most heavily concentrated in the Military Medical (General) (48 percent) competency with significant activities also occurring in the Medical (32 percent) and Military Medical (Specific) (20 percent) categories. When considered by student count, Military Medical (General) dominates this type of training with approximately 79 percent of all students in the sustainment category. The disproportionate density of Military Medical (General) is due to the inclusion of one-year certificate programs at USU (e.g., heath professions education or global health engagement programs) when measured by instruction-days, while the large density of students comes from the shorter DHA courses offered through DMRTI in Emergency Preparedness Response.

Table 24. Sustainment E&T Activities by Competency and Component

		Students	Instruction-Days	Pct
Medical	Army	11,795	125,137.5	20%
	Navy	1,775	6,889	1%
	Air Force	2,628	64,870	10%
Total		**16,198**	**196,896.5**	**32%**
Military Medical (General)	Army	2,869	49,061	8%
	Navy	6,198	25,120.5	4%
	Air Force	1,230	19,125	3%
	DHA	100,707	73,082	12%
	USU	185	132,104	21%
Total		**111,189**	**298,492.5**	**48%**
Military Medical (Specific)	Army	4,240	73,069	12%
	Navy	1,401	8,876	1%
	Air Force	8,303	45,047	7%
Total		**13,944**	**126,992**	**20%**
Grand Total		**141,331**	**622,381**	**100%**

3. Professional Development Training

Professional development training accounts for approximately 12 percent of the total medical E&T student volume (measured by number of students) and 6 percent when measured by instruction-days. This makes it the smallest category of medical E&T activities. Like sustainment training, professional development training is generally shorter in length. Courses range from one day to several months, but the majority of courses are under two weeks.

Because professional development training is required for the career maturation of military medical personnel, its focus tends to be on various aspects of medical leadership or executive competency necessary to support military medical operations. As represented in Table 25, enlisted and officer professional development training in the Army represents approximately 86 percent of the instruction-days and 71 percent of the students captured in this category. Relative to the Army, the Air Force and Navy appear underrepresented in the professional development course inventory captured in Table 25. While the IDA team captured a great deal of professional development activities, we believe our inventory is incomplete and does not fully reflect the professional development E&T activities provided by DHA, Air Force, and Navy.

Table 25. Professional Development E&T Activities

	Students	Instruction-Days	Pct
Enlisted	**10,126**	**334,756**	58%
Army	9,760	330,813	58%
Navy	296	3,293	1%
Air Force	70	650	<1%
Officer	**7,979**	**179,113**	31%
Army	6,225	163,793	29%
Navy	805	6,780	1%
Air Force	949	8,540	1%
Officer and Enlisted	**4,104**	**58,406**	10%
DHA*	153	459	<1%
USU	38	27,664	5%
Army	2,927	25,674	4%
Navy	500	2,748	<1%
Air Force	486	1,861	<1%
Grand Total	**22,209**	**572,275**	

* The IDA team received information about a series of JMESI courses offered by DHA LEADS. However, student enrollment data were not available. We therefore undercount DHA Professional Development activities.

As a category, professional development would appear to be training-specific to military medical functions. When examined by competency type, the preponderance of professional development training is Military Medical (Specific), either by instruction-days (87 percent) or students (84 percent). Table 26 displays the full distribution of training by competency and military component.

Table 26. Professional Development E&T Activities by Competency and Component

		Students	Instruction-Days	Pct
Medical	USU	38	27,664	5%
Total		**38**	**27,664**	**5%**
Military Medical (General)	Army	2,043	34,684	6%
	Navy	406	3,843	1%
	Air Force	841	6,653	1%
	DHA	153	459	0%
Total		**3,443**	**45,639**	**8%**
Military Medical (Specific)	Army	16,869	485,596	85%
	Navy	1,195	8,978	2%
	Air Force	664	4,398	1%
Total		**18,728**	**498,972**	**87%**
Grand Total		**22,209**	**572,275**	**100%**

The large density of professional development training occurring in the Army is due to the mature and robust professional development offerings of the AMEDDC&S, which cover a range of military leadership courses for officers and enlisted personnel. Many of these courses, and the accompanying personnel codes, are required for Army personnel to occupy leadership positions or for advancement to higher grades. The courses provide specific levels of training on DoD/Army organizations, joint military operations, decision making, Force Health Protection, communication, leadership, and many more military-specific subject areas. Because we suspect the inventory of professional development training to be incomplete from both the Air Force and the Navy, the team assumes Army's focus on Military Medical (Specific) would be applicable to the other Services as well.

B. Medical E&T Resources

In Section B, we present a series of tables summarizing the resourcing for E&T activities in the MHS. These tables provide useful perspective into the funding requirements within the scope of this project and should provide policymakers with a better understanding of the impacts of consolidation. We present both a top-down view of resourcing and a bottom-up view using data received through a data call through the component organizations.

1. Top-Down Analysis

From a DoD perspective, resourcing for E&T activities of the DHP resides in Budget Activity Group (BAG) 6. BAG 6 is composed of three primary program elements (PEs) that provide resourcing support for the following E&T opportunities and activities: Health

Professions Scholarship Program (PE 0806722), Uniformed Services University (PE 0806721), and Other E&T (PE 0806761).[64]

- **Health Professions Scholarship Program (HPSP):** Resources for the Armed Forces HPSP, Financial Assistance Program (FAP), and other pre-commissioning professional scholarship programs.
- **Uniformed Services University (USU):** Resources required for operation and maintenance of this DoD-funded university that produces physicians, advanced practice nurses, advanced practice dentists, and other health professionals.
- **Other E&T:** Resources required for specialized skills training and professional development education programs for healthcare personnel at METC, AMEDDC&S, USAFSAM, Air Force medical professions E&T programs, and BUMED-sponsored schools. This category also includes educational programs for healthcare personnel at both federal and private sector academic institutions and medical facilities. Professional development training provides officer, enlisted, and civilian medical personnel with the specialized skills and knowledge required to perform highly technical health service missions.

Table 27 summarizes FY 2017 O&M and MILPERS resourcing for DHP BAG 6.

Table 27. FY 2017 DHP BAG 6 Education and Training ($000s)

	O&M	MILPERS	Total
HPSP	$239,082		**$239,082**
USU	$157,135	$130,783	**$287,918**
Other E&T	$310,552	$1,446,591	**$1,757,143**
Total	**$706,769**	**$1,577,374**	**$2,284,143**

MILPERS expense can be further broken down by Service for students assigned to USU and Other E&T activities in the DHP. Table 28 provides a summary of MILPERS expense by Service.

[64] *Defense Wide Budget Documentation: OP-5 Education and Training DHP PB19*, Under Secretary of Defense (Comptroller), https://comptroller.defense.gov/Budget-Materials /FY2019BudgetJustification/#defhealthprog.

Table 28. DHP BAG 6 MilPers $s by Service ($000s)

	Army	Navy	Air Force	Total
USU	$55,275	$41,790	$33,718	**$130,783**
Other E&T	$629,811	$524,800	$291,980	**$1,446,591**
Total	**$685,086**	**$566,590**	**$325,698**	**$1,577,374**

2. Bottom-Up Analysis

To complement the top-down examination of E&T resources, the IDA team conducted a data call to the component organizations to better understand the funding of medical E&T.

a. Methodology and Data Sources

IDA received budget data from each of the Service training commands as well as from DHA and USU. The quality and granularity of the data varied significantly across organizations. To normalize the data for comparisons across components, we restricted our analysis to DHP-funded O&M and MILPERS dollars. Several programs within DHA provided spend plans that did not include civilian pay, but instead provided a roster of instructors and staff that included relevant information on pay grade. For consistency across DHA, we calculated civilian pay for all of DHA using estimates from the Full Cost of Manpower (FCoM) tool sponsored by OSD Cost Assessment & Program Evaluation (CAPE). MILPERS costs were estimated using composite rates for FY 2018 and rosters provided by the component organizations. Due to its dual research mission, much of USU's funding includes other appropriations that are less common in the other components, such as RDT&E or Guidance for the Development of the Force (GDF) funds. These figures are not presented in Table 29, but would significantly change USU's cost structure.

b. Resourcing by Component

Table 29 shows the medical E&T resourcing by organization using a bottom-up approach.

Table 29. Bottom-up Medical E&T Resourcing ($000s)

	O&M Expense	MILPERS Expense	CIVPERS Expense	Total Component Cost
Army	$124,096	$158,776	-	$282,871
Navy	$66,084	$46,997	-	$113,081
Air Force	$23,382	$41,423	-	$64,805
DHA – LEADS & DMRTI	$5,423	$9,129	$2,483	$17,036
DHA – METC	$20,901	$14,341	$16,706	$51,948
DHA – J7 HQ	$9,865	$3,598	$1,646	$15,109
USU	$76,000	$136,200	$81,000	$293,200
Totals	**$325,751**	**$410,464**	**$101,835**	**$838,050**

Source: IDA data calls with Component E&T Commands and MTF Expense Reporting. Component O&M submissions lacked resolution to accurately break out specific Bag 6, HPSP, or CIVPERS expenses in the totals.

Using budget and spend plan figures from the component data call, IDA estimates the cost of the relevant Service training commands, USU, and DHA to total $783 million annually. Note that this figure excludes the cost of graduate E&T that may take place in MTFs.

3. Postgraduate Education Resourcing

GME, GDE, and GHE occurs outside of the control E&T commands discussed in this paper. While the resources are represented in the BAG 6 totals displayed in Table 27, the execution occurs, for the most part, at various MTFs throughout the MHS. To capture and estimate FY 2017 expenses for these graduate education programs inside Service MTFs, the team extracted data reported in the Medical Expense and Performance Reporting System (MEPRS) under the following codes: FAN, FAO, FAP, FAQ, EBE, and EBI. These codes represent special programs to capture GME/GDE expenses for interns, residents, or fellows at MTFs. Table 30 summarizes GME and GDE expenses across the MHS.

Table 30. FY 2017 MHS MTF GME/GDE Expense ($000s)

Program	O&M Expense	MILPERS Expense	Other Support Expense	Total
GME	$72,417	$311,110	$125,186	**$508,714**
GDE	$6,203	$41,862	$21,023	**$69,088**
Total	**$78,620**	**$352,972**	**$146,209**	**$577,802**

The MHS totals in Table 30 can be further subdivided to represent the expenses associated with the MTFs of the sponsoring military Service. Table 31 lists the MTF GME/GDE across the three Services and DHA.

Table 31. MHS MTF GME/GDE Expense by Sponsoring Service ($000s)

	Program	O&M Expense	MILPERS Expense	Other Support Expense	Total
Air Force	GME	$5,255	$40,665	$13,930	**$59,851**
	GDE	$1,157	$14,299	$8,124	**$23,581**
	Total	**$6,412**	**$54,964**	**$22,055**	**$83,431**
Army	GME	$42,265	$154,271	$71,098	**$267,634**
	GDE	$2,820	$19,222	$7,837	**$29,880**
	Total	**$45,086**	**$173,493**	**$78,935**	**$297,514**
Navy	GME	$8,557	$51,602	$22,568	**$82,727**
	GDE	$159	$1,892	$487	**$2,537**
	Total	**$8,716**	**$53,494**	**$23,054**	**$85,264**
DHA NCR	GME	$16,339	$64,573	$17,590	**$98,502**
	GDE	$2,067	$6,448	$4,575	**$13,090**
	Total	**$18,406**	**$71,021**	**$22,165**	**$111,592**
				MHS Total	**$577,802**

In addition to the GME/GDE support provided to the interns, residents, and fellows listed in Table 31, MTFs also support various training programs, professional development, and the continuing education of the staff working inside the facilities. These expenses are for non-GME/GDE training programs or educational support provided through the MTF and are captured with special program codes FAH, FAI, FAK, FAL, and EBF in MEPRS. Table 32 displays the total expenses for this support in MTFs by Service.

Table 32. FY 2017 Non-GME/GDE Training and Education Expenses in MTFs ($000s)

Service	O&M Expense	MILPERS Expense	Other Support Expense	Total
Air Force	$30,144	$107,152	$57,980	**$195,277**
Army	$155,495	$171,901	$77,897	**$405,293**
Navy	$27,677	$53,820	$53,193	**$134,691**
DHA NCR	$60,627	$35,937	$22,085	**$118,649**
Total	**$273,944**	**$368,810**	**$211,155**	**$853,910**

4. Reconciling Approaches

There are slight differences in the final figures when comparing the two different approaches to analyzing the enterprise's resourcing of E&T. Table 33 provides an overview of the difference between the two approaches.

Table 33. DHP BAG 6 Education and Training ($000s)

	O&M	MILPERS	Total	
DHP BAG 6	**$706,769**	**$1,577,374**	**$2,284,143**	
	Bottom-up Totals $000s			
Activity	**O&M Expense**	**MILPERS Expense**	**Other Support**	**Total**
E&T Commands	$325,751	$410,464	$101,835	**$838,050**
MTF GME/GDE	$78,620	$352,972	$146,209	**$577,802**
MTF Non-GME/GDE	$273,944	$368,810	$211,155	**$853,910**
Total	**$678,315**	**$1,132,247**	**$459,199**	**$2,269,762**
	Approach Reconciliation $000s			
	O&M	**MILPERS**	**Other Support**	**Total**
DHP BAG 6	$706,769	$1,577,374	"-"	**$2,284,143**
Bottom-up Expenses	$678,315	$1,132,247	$459,199	**$2,269,762**
Difference	**$28,454**	**$445,127**		**$14,381**

In comparing approaches, approximately $14 million remains unaccounted for in the Service data calls conducted as part of this project when compared to the topline totals for DHP BAG 6 in the overall DoD budget. It is important to point out that the "Other Support Expenses" category identified in the MEPRS extracts for MTF E&T is not defined to represent the "Other E&T" PE used in BAG 6. For MEPRS expense allocation, this category represents general program support that is shared with healthcare-producing work centers in the MTF, and can represent military/civilian labor expense or O&M expenses incurred for general E&T program support. As a result, the bottom-up "Other Support" category of Table 33 would need to be allocated into the other sub-components (O&M and MILPERS) to improve the accuracy of the bottom-up approach. The MEPRS system provides no reliable way of making this allocation. Regardless, the IDA team felt confident that the bottom-up approach had collected the majority of the total DHP medical E&T expenses for the MHS.

5. Resourcing Summary

In summary, military medical E&T requires a significant commitment of resources. Much of the resources are spent at the E&T components that are the focus of this project. However, an even greater share of resources is spent conducting training in MTFs.

C. Common Medical E&T Functions

While conducting the inventory, the IDA team also assembled a list of common functions found across the medical E&T enterprise. To provide these functions, each stakeholder must expend resources, participate in review processes, and/or carry out a number of business activities. For instance, the first function, "accreditation," is a requirement for granting academic degrees or credit. To obtain and maintain institutional accreditation, E&T stakeholder institutions must go through a rigorous accreditation process to ensure they meet the comprehensive standards set by the accrediting body.

Table 34 lists and defines 11 functions that were repeatedly observed across the different medical E&T stakeholder components. The IDA team found that each E&T stakeholder had capabilities to perform functions in each area.

Table 34. Common Medical E&T Functions

Capability	Definition
Accreditation	Process of external peer review used to scrutinize E&T programs for quality assurance, quality improvement, and the fulfillment of professional standards. Required to grant academic credit or degrees.
Continuing Education	Development and review of curriculum ensuring standards achieved for accreditation of educational activities to deliver CE credit in support of licensure and certification requirements.
Curriculum and Faculty Development	Process for integrating course content with educational theory and methodologies and coaching faculty to improve the delivery of educational content.
IT Support	Meets the requirements of the E&T programs and provides technical support to complementary capabilities such as the LMSs, libraries, etc.
Learning Management Systems (LMS)	Web-based software applications to aid in the administration, documentation, tracking, and delivery of E&T programs.
Library/Learning Resource Center	Maintains large collections of print and electronic resources on a wide range of topics relevant to biomedical education, research, and evidence-based practice.
Life Support Programs	Includes delivery of Basic Life Support, Advanced Life Support and Pediatric Advanced Life Support training at the classroom, as well as oversight and policy supporting program execution.
Logistics and Campus Operation	Ancillary support services such as the ordering of required textbooks, coordination of field exercises, clinical rotations, and physical operation of the campuses.
Medical Modeling and Simulation	Provides realistic, hands-on training through the use of high, medium, and low-fidelity mannequins and operational scenarios.
Personnel Management	Ensures training programs are sufficiently staffed by qualified personnel who not only possess the appropriate subject matter expertise, but also meet the necessary standards for instruction set by accrediting committees or operational requirements.
Registrar	Maintains the academic records of students, issues transcripts, registers students, maintains class schedules, and administers regulations relating to academic deficiencies such as probation or re-admission.

In accordance with the 2017 NDAA, the DHA J7 and USU jointly conducted functional analyses of several major medical E&T functions including registrar services, distributed learning, medical modeling and simulation, continuing education units (CEUs), and information management and technology (IM/IT) services. The purpose of these analyses was to identify business services and tasks performed by individual military departments that could be consolidated. Based on these analyses, recommendations for

several courses of action were made to reduce duplication and increase efficiencies. Specifically, recommendations included:

- Joint development and standardization of distributed learning content in CEU and Level 2 and 3 training;
- Collaboration and consolidation of medical modeling and simulation technology through resource sharing of personnel, training development and delivery technology platforms, funding, and facilities;
- Transition of METC's IM/IT services to USU to leverage USU's existing .edu network and services; and
- Conducting an in-depth feasibility study regarding the establishment of a common registrar system for DHA J7 and USU.

Consolidation of capabilities and functions across the enterprise along with collaboration and resource sharing has the potential to promote efficiency and provide cost savings by eliminating duplicative services. This is an option currently being pursued by the Navy with the announcement on February 12, 2019 that Navy Secretary Richard Spencer signed a memorandum to initiate the establishment of a Naval University System,[65] based on the findings of the Education for Seapower (E4S) final report.[66] The E4S recommends major adjustments in the organization of the Naval Education Enterprise and its governance structure, which are meant to increase coordination and cooperation among educational programs, thereby reducing inefficiencies and enhancing naval education.

Similar to the proposed Naval University System are the civilian university systems that are prevalent throughout the United States. A university system is a set of universities that typically share a governing body such as a Board of Regents, and acts as one legal entity. One of the major advantages of the university system is that resources can be pooled, ensuring that they are used efficiently and effectively.

The amount of resource sharing among institutions in a university system varies. An examination of several university systems in the United States (e.g., University of California, State University of New York, and University of Wisconsin) revealed that the level of resource sharing for a capability falls in one of three categories: frequent, variable

---

65 Jim Garamone, "New Naval University System Will Develop Agile, Adaptable Leaders," Department of Defense, February 12, 2019, https://dod.defense.gov/News/Article/Article/1755725/new-naval-university-system-will-develop-agile-adaptable-leaders/; Mark D. Faram, "Why SECNAV is Launching Naval University," Navy Times, February 13, 2019, https://www.navytimes.com/news/your-navy/2019/02/13/why-secnav-is-launching-naval-university/.

66 Department of the Navy, *Education for SEAPOWER, Department of the Navy Education for SEAPOWER (E4S) Study Final Report* (Washington, DC: Department of the Navy, December 2018), https://assets.documentcloud.org/documents/5736105/E4SFinalReport.pdf.

across systems, and infrequent. Table 35 displays the capabilities grouped by level of resource sharing. Several functions (life support programs, logistics and campus operations in regard to coordinating field exercises and clinical rotations, and medical modeling and simulation) in Table 34 were not considered in Table 35, as these capabilities are highly specific to the military medical E&T enterprise and not common among university systems in the civilian sector. Table 35 also lists capabilities that, while not in Table 34, may be of interest to examine in the context of the military medical E&T enterprise.

Table 35. Medical E&T Functions by Level of Resource Sharing

Frequently Shared Capabilities	Capabilities with Variable Levels of Sharing	Infrequently Shared Capabilities
Continuing Education and Extension	Accreditation	Curriculum and Faculty Development
Human Resources (Personnel Management)	Learning Management Systems	
IT Support	Registrar	
Library Resources		
Facilities Management		
Oversight of Medical Enterprise		
General Counsel		
Financial Administration		

Further explanation of how the functions are shared is warranted, especially for those that are frequently shared. For most of these capabilities, a central office such as the Office of the University President or Office of the Chancellor provides system-wide support in terms of policy development, programs, and guidance that would otherwise lead to duplicative efforts, although campus offices exist to address issues specific to that campus. For example, in many university systems, human resource functions such as payroll management and benefit administration are handled at the system level, while campus human resource offices exist to address the specific needs of campus faculty and staff. IT support, CE (including extension), facilities management, library resources, oversight of medical enterprise, and financial administration also tend to operate with a central office to oversee operations and campus offices for local operations and implementation. General counsel and legal services tend to be the most centralized capabilities, as campus offices—especially at smaller campuses—are not needed or would be cost-prohibitive to run.

The extent to which accreditation, LMSs, and registrar services are shared differ across systems. In the University of California system, all campuses use the same LMS and the same system is used for student recordkeeping. On the other side of the spectrum, in the University of Texas system, campuses use different LMSs and there is not a central

system for student records. The amount of support for accreditation also varies considerably. Under a university system, each campus is individually accredited, meaning each campus separately goes through the accreditation process. In the University of North Carolina system, an Accreditation Council of campus accreditation liaisons share information and best practices on the accreditation process. In contrast, in the University of Texas system, although there is some resource sharing, the accreditation process seems to be the responsibility of each individual campus.

Faculty and curriculum development is the only function that is rarely shared. This is due to the differences among campuses within a university system including mission, student population, and faculty needs. For example, in the University of North Carolina system, UNC-Chapel Hill and North Carolina State University are large doctoral research universities, while UNC-Asheville is an undergraduate liberal arts university. Having faculty and curriculum development at the campus level allows each campus to tailor this development to the specific needs of its faculty and students.

5. Organizational Options for the DHA ETO

In this chapter, we present three different approaches (or models) for consolidating medical E&T activities under a new DHA ETO. The three models presented here share a common foundational organizing principle based on the taxonomy/framework introduced in Chapter 3, which results in several common features across the models. Section A provides a discussion of the option development framework and the features common to the three models. Section B presents a summary of each model, and Section C presents a summary analysis of the options.

A. Option Development Framework

Figure 9 shows the framework that we introduced in Chapter 3 for classifying medical E&T activities. Each component's activities are represented with a different color. The bubble size represents the number of instruction-days.

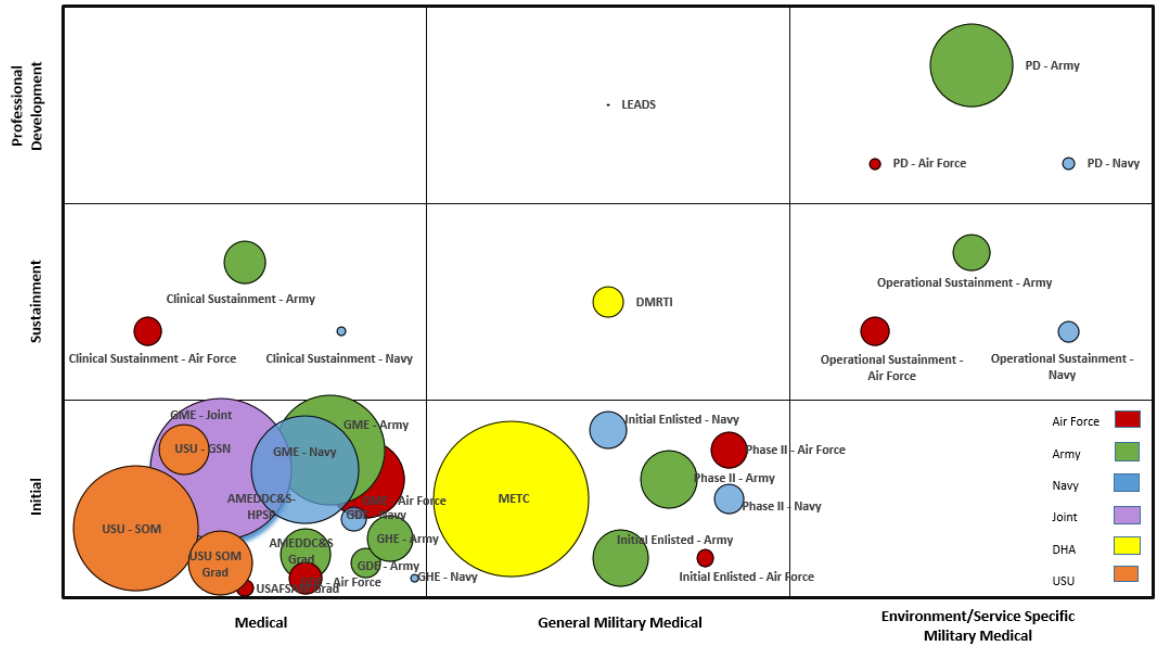


Figure 9. Medical E&T Activities by Category and Competency Type

We can see that the mass of E&T programs fall into the lower left region of the figure—essentially initial training focused on building medical competencies. The IDA

team used this framework to help segment where different E&T activities might realign within the E&T enterprise.

The leftmost panel of the graph contains E&T activities that are largely medical in nature. We assessed that classroom-based activities falling into this panel should align to USU (or be carried out through affiliations with the civilian sector). As the MHS's flagship academic institution, USU could provide all higher medical education in a joint environment. Clinical-based activities (GME, GDE, etc.) falling in the leftmost panel are run by the Services but carried out in facilities managed by DHA.

The middle panel contains programs that focus on building general military medical competencies. These programs do not readily exist in the civilian sector and are unique to military medicine. They could, however, be run in joint settings, resulting in greater standardization, improved interoperability, and possible cost efficiencies. Many activities in this panel naturally align to the mission and scope of DHA (although USU could support initial E&T activities in this lane given their academic capabilities).

The rightmost panel contains Service- or environment-specific E&T activities. Consolidating such trainings would hinder readiness and the Service-specific capabilities necessary to support unique operational environments. These activities should align to Service E&T commands and be carried out directly by the Services (or under strong Service influence).

Based on this framework, we realigned initial classroom-based training activities to USU. This realignment would require three changes to USU's current structure, including (1) an METC/CAHS merger, (2) a USAGPAN/GSN merger, and the (3) formation of a Graduate School of Public Health and Biomedical Sciences.[67] We also created coordinating roles for the GME and HPSP programs. These USU changes and new coordinating roles are described in detail below.

1. METC/CAHS Merger

As previously discussed, the USU's CAHS largely exists as a credit-granting institution. The college analyzes existing METC course curriculum (and other courses across the MHS) and determines if credit can be awarded. In addition to providing credit to METC students, the CAHS also offers a faculty development curriculum for credit.

While the affiliation between the two institutions has already proved fruitful, merging METC with CAHS would further encourage credit granting to enlisted personnel and

---

[67] USU has already begun to align METC classroom, clinical, laboratory, simulated, field, and practicums with the CAHS. Operational programs in other locations (e.g., Navy Independent Duty Corpsmen east and west coast; Army Critical Care Flight Paramedics (CCFP), and Air Force Critical Care Air Transport Team) are also aligning with the CAHS.

provide value back to the MHS in the following ways. First, the merger would support the broader shift towards competency-based E&T in both medicine and the MHS. This approach differs from the current CAHS business model of combing through curricula and granting credits where possible, and would instead represent a more structured and purposeful approach to curriculum development and instruction. The award of an academic degree and credential then becomes the manifestation of a Service member's competency and meeting a clinical standard. Second, this affiliation would provide the institutional accreditation required for future changes in credentialing requirements for many of the healthcare specialist tracks at METC. USU has the capacity to meet any necessary programmatic accreditation requirements dictated by professional associations through its existing accreditation office. Third, a single credit-granting institution for enlisted training in the MHS would help Service members satisfy the residency requirements for degree conferral. Universities require that a minimum of 25 percent of credits be earned at the institution awarding the degree. Finally, USU would also take over responsibility for METC's IT operations in order to leverage USU's .edu network.[68]

Under a merger, USU would assume management of the METC campus. DHA personnel and resources currently aligned to METC would be realigned to USU's existing southern campus in San Antonio under the direction and oversight of the University's Senior Vice President – South.

2. USAGPAN/ GSN Merger

USU and the Army both offer a doctoral-level nurse anesthesia program. Today, the GSN has roughly 200 students annually (roughly 80 in the CRNA program). This merger would grow the GSN enrollment by 98 students and result in an average CRNA cohort size of roughly 80. While some faculty would need to transfer to augment the USU faculty, an overall reduction in the combined faculty and staff would be expected. The merger would also lead to standardized E&T for nurse anesthetists that would be performed in a joint environment while expanding the opportunities for increased participation in operational training experiences such as Operation Bushmaster.

3. Graduate School of Public Health and Biomedical Sciences (GSPH) Formation

The GSPH would absorb all other graduate programs currently run by the Service medical E&T commands and the USU graduate programs currently residing in the SOM. The merger would allow the consolidation of duplicative programs such as the Master's in

---

[68] Transferring responsibility for METC's IT operations to USU was recommended in a third-party assessment of the METC and USU technology environments. "Defense Health Agency (DHA) J-7 & Uniformed Services University of the Health Sciences (USUHS) Distributed Learning (DL) Functional Analysis," Appendix A: METC/USU Network Assessment Final IPR, April 9, 2018 (pre-decisional, limited distribution).

Healthcare Administration offered by both USU and AMEDDC&S through the Army-Baylor program. The merger would further allow core coursework, such as anatomy, biochemistry, or public health, to be conducted jointly across programs and USU schools, leading to a more efficient use of resources. The new school would house approximately 15 programs and 904 students annually.

4. Graduate Medical Education (GME) Program Coordination

As discussed in Chapter 4, the recent Section 749 Report introduces the concept for Tri-Service GME oversight with discussion of an OAC, IB, and operating processes to ensure such programs fully support the Armed Forces' operational medical force requirements.[69] As outlined in the report, the GME OAC reports to the DHA Director through the Deputy Assistant Director for Medical Affairs. The options described in this chapter are not meant to change the processes described in the Section 749 Report, but are intended to suggest an ideal place for the OAC within the organization's structure in order to maximize the integration of GME within the broader E&T enterprise of the MHS. The options discussed in Section B reflect a change in the reporting chain of the GME OAC; instead of reporting through the Deputy Assistant Director for Medical Affairs, the OAC would report through the new DHA ETO to the Director of DHA. These changes are meant to better integrate GME within the corresponding restructuring of E&T to maximize readiness.

5. Health Professions Scholarship Program (HPSP) Coordination

The HPSP represents the largest initial accession source for new medical professionals to the MHS. Accepted students receive financial compensation for tuition and fees as well as a monthly stipend, in exchange for a military service obligation to the sponsoring Service upon graduation. Generally, students incur a service obligation of one year of service for every year on scholarship or "one-for-one" with a minimum service obligation of two years for physicians.

HPSP programs are run by the individual Services based on manning requirements for new medical officers. As the education of medical professionals is the primary mission of USU, there are many opportunities for improved coordination between the three Services and USU in areas such as application processing, program assignment, or military indoctrination that would enrich the HPSP and remove the unnecessary duplication of administrative activities. Like the GME programs discussed above, the HPSP coordinating roles and functions identified in the models below are not meant to supersede or substitute Service requirements for new medical professionals. Instead, they seek to strengthen

---

[69] USD(P&R), *Report on Oversight of Graduate Medical Education Programs.*

processes for efficient HPSP administration and highlight opportunities to share resources and training opportunities across the three Services and USU.

B. Options

As previously discussed, Title 10 of the U.S. Code gives the Armed Services the authority to "recruit, train, organize, and equip." Under each model, we assume the Services will continue to specify the required number and specialty mix of all medical personnel.

1. Consortium Model

Figure 10 illustrates the concept of a consortium model.

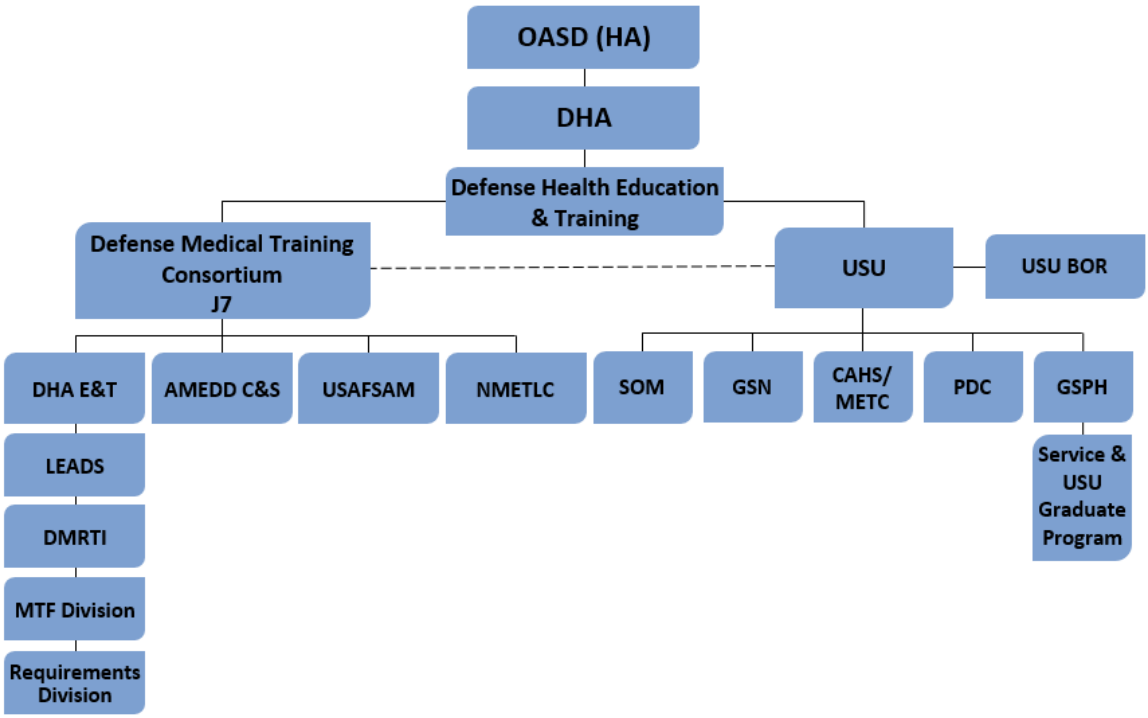


Figure 10. Consortium Model

Under this model, the E&T enterprise is organized into two major components, a Defense Medical Training Consortium (DMTC) and USU. Both components report to the president of USU, who heads the DHA ETO. Each of the component Service schools continues to operate relatively autonomously, retaining most of the major E&T capabilities and functions currently under their purview. The ETO office is small and performs enterprise-wide oversight/policy supporting both USU and the DMTC. Where appropriate, USU will provide academic support to the consortium, and the DMTC will provide readiness training opportunities to USU in order to improve the military relevance of the

educational experiences. The dotted line connecting USU to the DMTC in Figure 10 reflects this reciprocal relationship.

a. USU

Under this model, USU will expand through the METC/CAHS merger, the USAGPAN/GSN merger, and the formation of the GSPH (described in Section A). The University will also realign from OASD(HA) to DHA as directed by the congressional language. USU leadership has argued that this realignment could threaten the University's accreditation and increase the cost of operations. We will discuss this topic further in Chapter 6. For now, we note it would be possible to create a variation of the consortium model with dual hatting, in which the USU president would report to the DHA Director as head of the ETO, but to OASD(HA) as the head of the University.

b. DMTC

The DMTC will take responsibility for the vast majority of sustainment and professional development training. DHA J7 will lead the consortium, developing common rule sets and operating guidelines for activities. The DMTC will strive to drive greater standardization and integration across the three Service medical E&T commands. As the Services become more tightly organized into the DMTC construct, the schoolhouses will consolidate redundant capabilities and functions that can be more efficiently delivered at an enterprise-wide level (e.g., library, LMS, registrar, etc.). The DMTC, with J7 as lead, will direct integration of those common support functions across the Service schools. The DMTC will also maintain a consortium-wide course catalog, faculty/staff roster, and enrollment data to improve transparency and resource management across the consortium.

Under the DMTC, the J7 will continue to advance shared service implementation in areas already identified for consolidation, such as medical modeling and simulation, while establishing a future framework for movement of other common support functions to DHA, such as IT, logistics, or accreditation activities. With the J7 championing integration, the Service schools will be free to focus on Service-specific readiness and leadership training activities with minimal organizational restructuring.

Figure 11 illustrates where the central administrative E&T functions will be carried out across the enterprise.

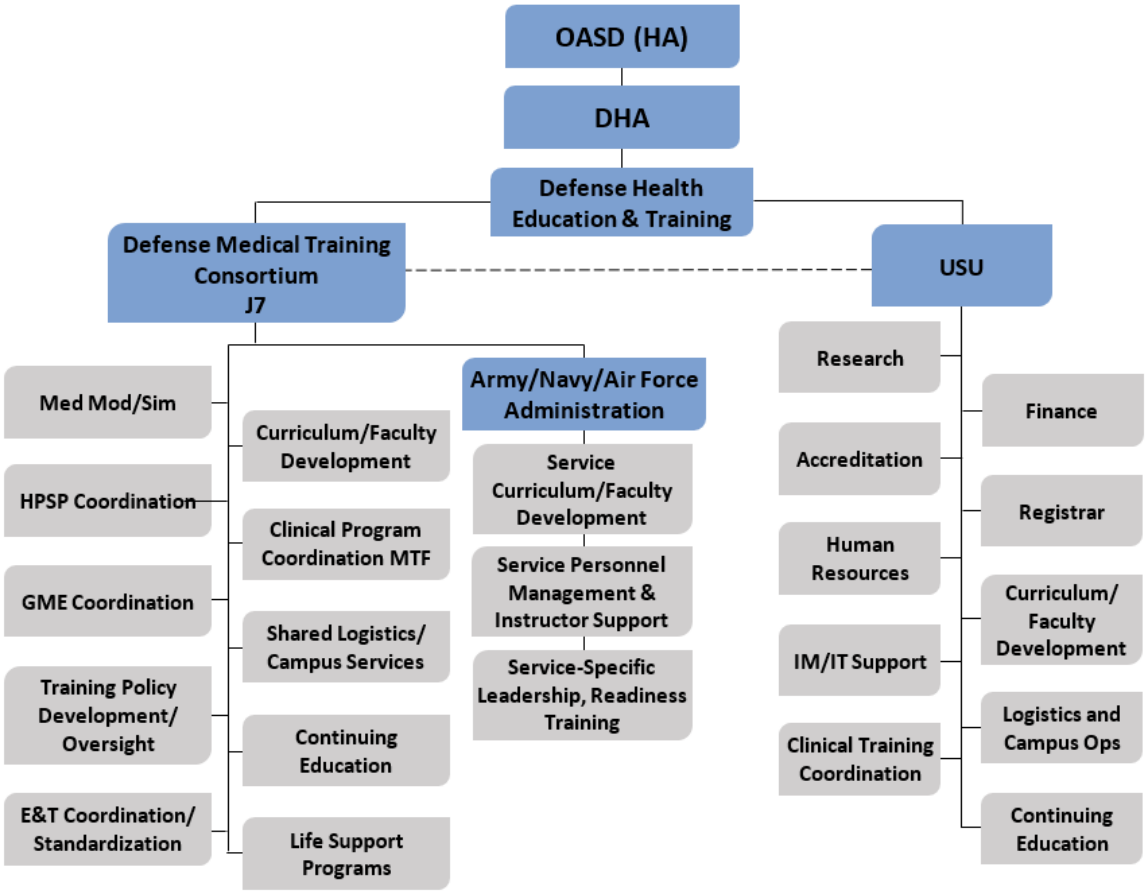


Figure 11. Central Administration of E&T Functions, Consortium Model

The Consortium Model is a "five to five" model in which each of the five components (DHA J7, USU, and the Service E&T commands) continue to exist and operate many (but not all) of their current E&T functions.

2. Defense Medical War College Model

a. General Concept

Figure 12 illustrates the concept of a Defense Medical War College (DMWC) model.

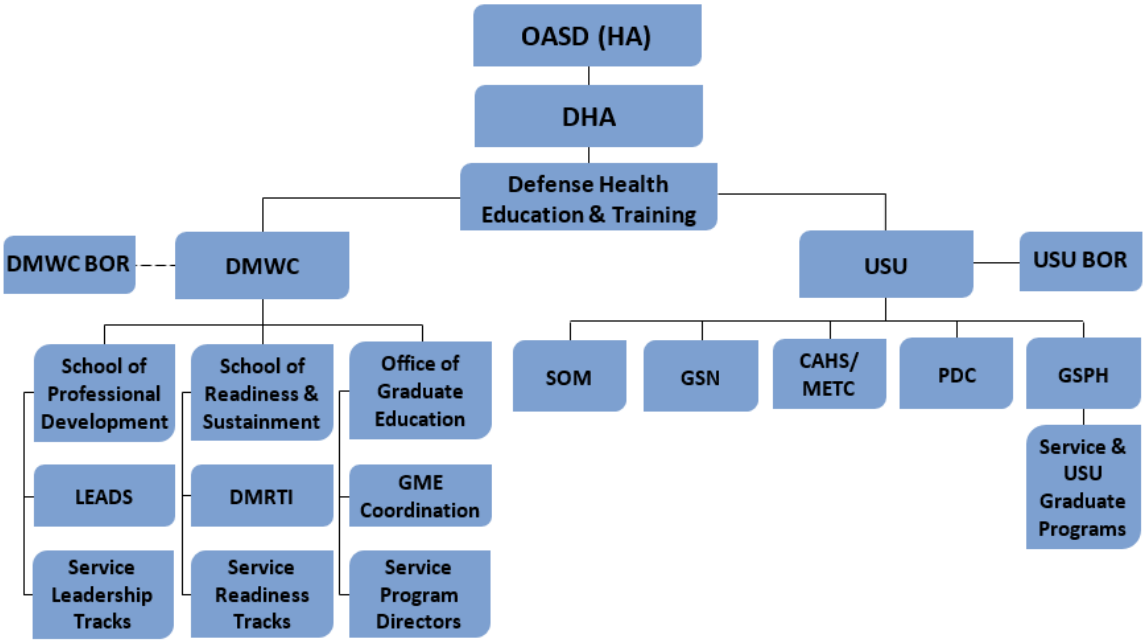


Figure 12. Defense Medical War College Model

Under this model, the E&T enterprise is again organized into two major components, a DMWC and USU. The DMWC houses the same E&T portfolio as the DMTC (under the consortium model). The key difference is that these activities are now aligned under a single college and segmented by function using an academic model (academic departments and curriculum tracks). Collectively, the two institutions form a university system led by the DHA ETO (headed by the president of USU). In this model, the ETO will be similar to the chancellor's offices that oversee large civilian university systems.

Each institution operates relatively autonomously, maintaining its own institutional accreditations and oversight through respective BORs. The ETO will take responsibility for enterprise-wide policy/oversight and for integrating common E&T capabilities that could be most efficiently provided at the enterprise level (e.g., library/learning resources, LMS, etc.) The ETO will also maintain master course catalogs, faculty/staff rosters, and enrollment data for the enterprise.

The USU E&T portfolio will be unchanged from the Consortium model—the university will again absorb METC and all graduate programs. The DMWC is described in greater detail below.

b. DMWC

The DMWC will be headed by a uniformed president rotationally elected by the Services. It will have a BOR composed of the ASD(HA), the DHA Director, the four Surgeons General (including the Surgeon General of the Public Health Service), the Joint

Staff Surgeon, and a representative from the civilian trauma community. The DMWC will have two main schools: a School of Professional Development and a School of Readiness and Sustainment. The college will also operate an office to oversee the clinical graduate education occurring in the MTFs (and civilian facilities).

The School of Professional Development (SPD) will house the LEADS program as well as Service-specific professional development training. The school's Dean will oversee the curriculum and identify Service courses that could be offered jointly as part of a common core curriculum.

The School of Readiness and Sustainment (SRS) will house the DMRTI portfolio as well as Service-specific sustainment and development training. It should be noted that the majority of sustainment training programs are conducted in clinical settings (MTFs or civilian hospitals). Such programs must be operated across multiple sites given that clinical facilities can only support a certain case volume. Like the Dean of the SPD, the Dean of the SRS will oversee the school's curriculum and work to identify additional courses that could benefit from greater standardization or be offered jointly. Merging and expanding certain Service-run programs could encourage sustainment E&T opportunities for all medical personnel.

The Office of Graduate Education (OGE) will focus on support to and coordination of the individual and joint GME/GDE/GHE programs. Support may include providing centralized administrative support to program directors, connecting faculty to development opportunities, and coordinating away rotations at affiliated institutions. The coordination of GME will focus on coordinating across Services the optimal allocation of GME slots and the mix of specialties. The OGE aims to help graduate education operate in a seamless and efficient manner.

Figure 13 illustrates where the central administrative E&T functions will be carried out across the enterprise.

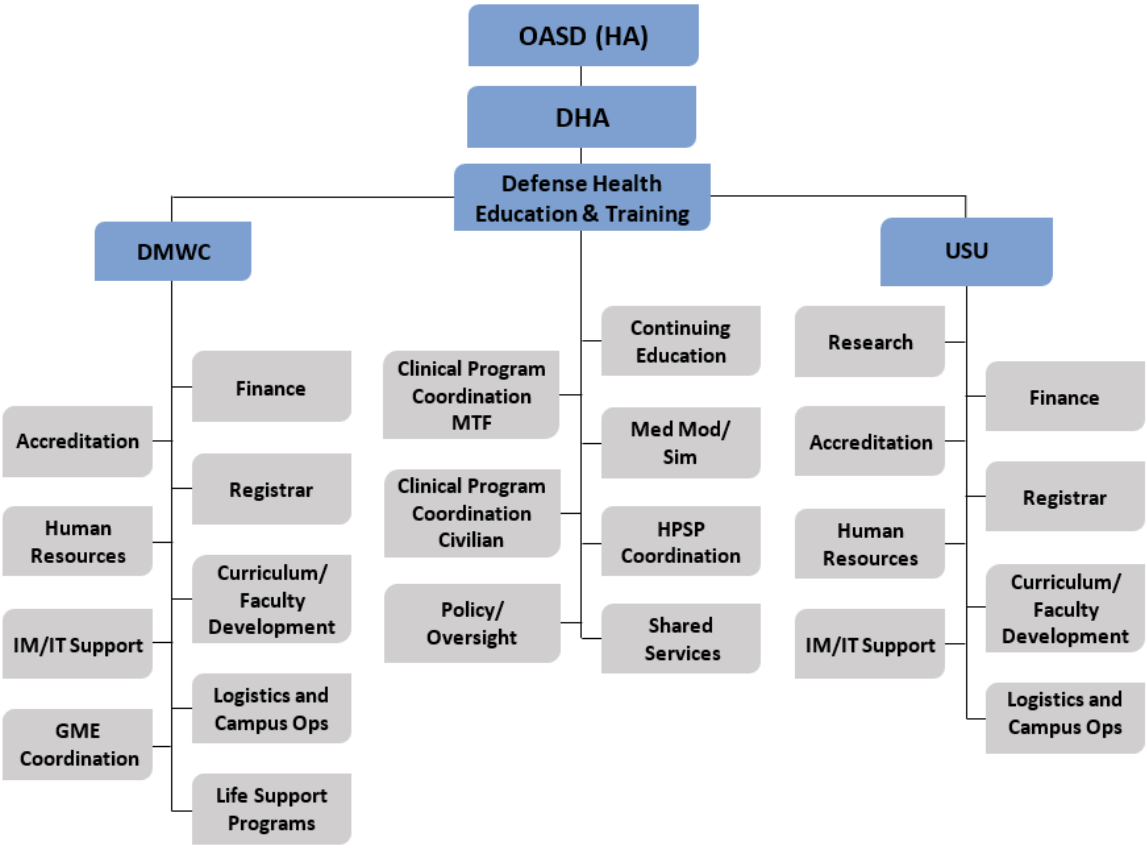


Figure 13. Central Administration of E&T Functions, Defense Medical War College Model

Many E&T functions are transferred to the DHA ETO. These functions are shown in the center of the figure. Services that will likely be shared across the two organizations (and centrally managed by the ETO) include library/learning resources, LMS systems, and continuing education. The ETO will also handle enterprise-wide policy/oversight and coordinating select clinical training programs (e.g., Phase II enlisted training and clinical portions of graduate programs). Functions that will likely be duplicated across the two institutions include finance, registrar, curriculum/faculty development, campus operations, human resources, and IM/IT.

The Defense Medical War College Model is a “five to two” model that merges the five components into two main E&T components (a DMWC and USU).

3. University Model

Figure 14 illustrates the concept of a University model.

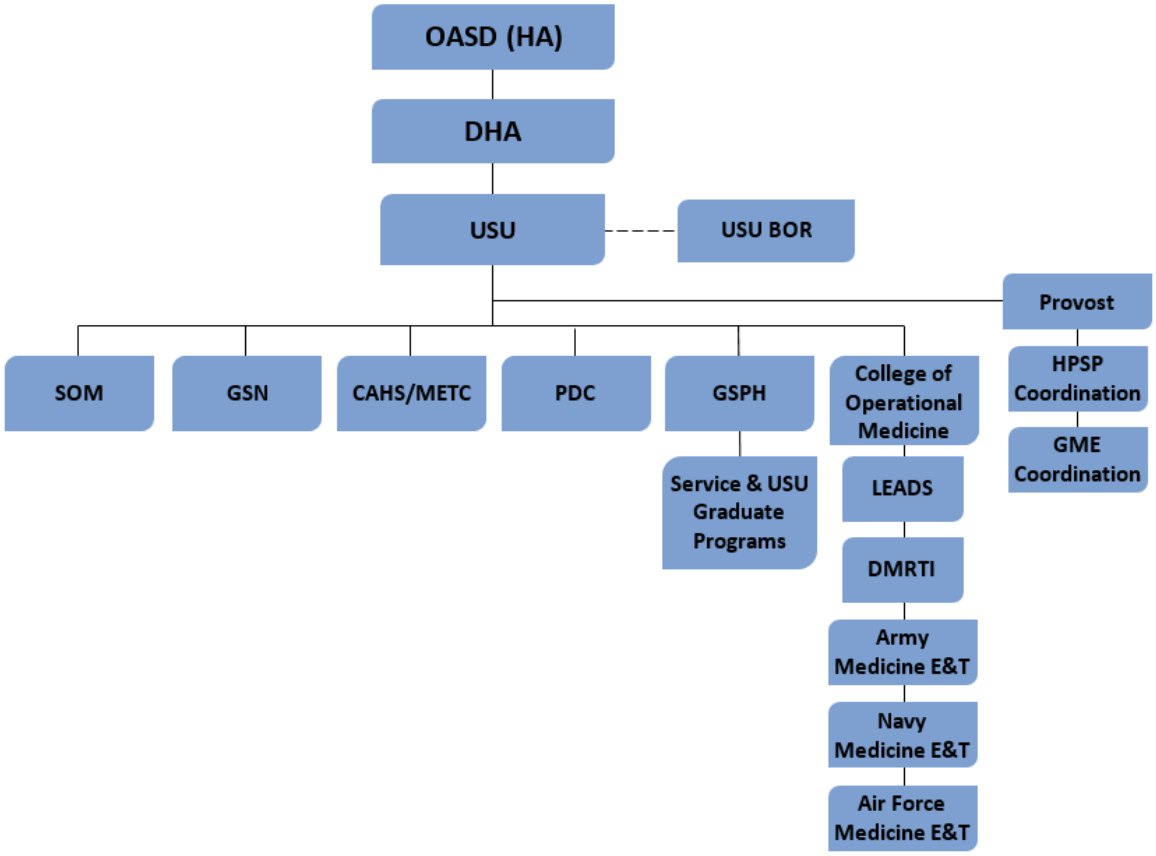


Figure 14. University Model

Under this model, the E&T enterprise is fully consolidated under the USU umbrella. The university becomes the E&T enterprise's centralized provider of all E&T capabilities (e.g., accreditation, registrar, faculty development, and continuing education). The sustainment and professional development E&T activities that were housed in the DMTC or the DMWC in the preceding two models will now be merged into a new College of Operational Medicine (COM). The COM is described in greater detail below. To help the university manage its expanding mission set, a University Provost's Office will be established. The Provost will serve as the chief academic officer working with the President and school deans to oversee academic policies and activities. Many of the missions and capabilities that currently reside in the DHA J7 will transfer to the Provost's office (i.e., those carried out by the Requirements division, the Operations division, and the MTF division). The DHA J7 educational activities (LEADS and DMRTI) will align under the COM.

a. Provost

With the additional functions and responsibilities falling under USU, the addition of a Provost is essential to the effective management of the University. The provost will serve as USU's chief academic officer and work closely with administration and the academic deans to oversee all academic policies and activities. This role will have four primary responsibilities. First, the Provost will ensure the compliance and oversight of the University's academic and research programs. The establishment of the role will improve accountability to senior MHS leadership and better align University activities to the needs of the enterprise. Second, the provost will improve USU's performance in building a pipeline of ready, military medical professionals and continue to develop Service members across the continuum of their careers. This will be carried out through functions such as faculty development or academic standardization and coordination. Third, the Provost's office will oversee and coordinate collaborations and external activities with USU partners across the enterprise, interagency, and civilian sector. This function will have the greatest impact on clinical practicums and Phase II training at both military and civilian medical facilities. Finally, the Provost will champion and drive the streamlining of business processes across the subordinate schools' academic programs. This could be through the consolidation of acquisition, improved organizational processes, or through academic efficiencies such as distributed learning or implementing core curricula.

b. College of Operational Medicine (COM)

The COM would consist of LEADS, DMRTI, and three Service-led departments (Army Medicine E&T, Navy Medicine E&T, and Air Force Medicine E&T). Each department will be led by a uniformed department head. LEADS and DMRTI will continue to maintain their current portfolios of courses. The Service E&T departments will house all sustainment and professional development training that is Service- or environment-specific. The Dean of the College will review Service department curricula and drive standardization when necessary. If some courses are found to be very similar across Service departments, a core curriculum could be implemented.

Figure 15 illustrates where the central administrative E&T functions will be carried out across the enterprise.

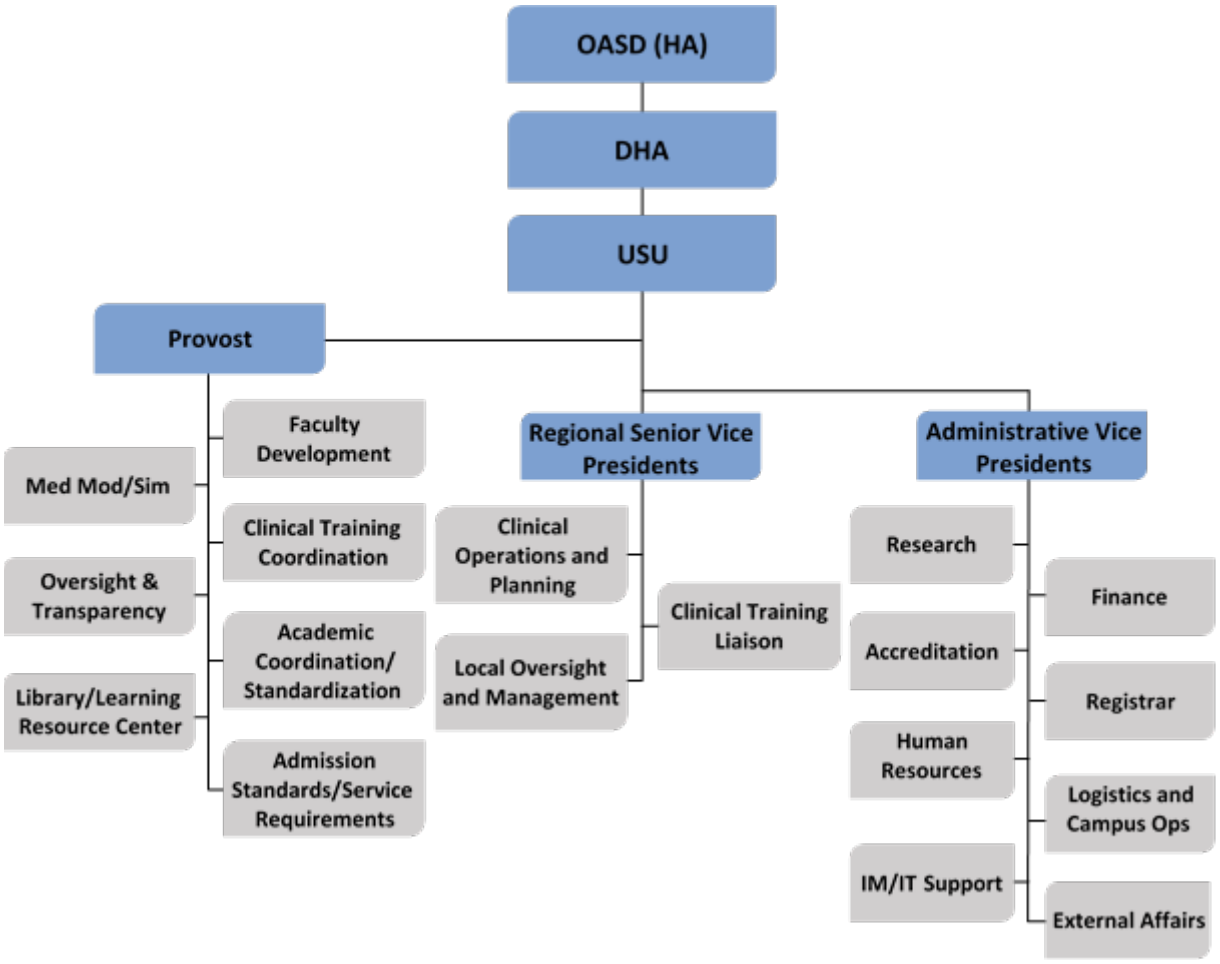


Figure 15. Central Administration of E&T Functions, University Model

The University model is a "five to one" model in which all E&T activities are rolled under one university umbrella, providing centralized provision of all E&T capabilities/ functions.

C. Summary of Models

Each model was built based on a common foundational organizing principle that resulted in several unifying features. What varies instead across each model is the degree of consolidation and the organizational structure used for achieving integration.

The Consortium Model preserves components of each stakeholder's E&T enterprise (although some activities are transferred between the different components). Certain common functions are elevated to the DMTC (e.g., library/learning resources, LMS systems) but many would be left to the Service schools (e.g., curriculum/faculty development and campus logistics). In addition to following the underlying framework, this model segments E&T activities using a structure based on existing organizations (activities are maintained within separate organizations).We consider this a "five to five"

model in that each of the five components (DHA J7, USU, and the Service E&T commands) continues to exist and operate many (but not all) of their current E&T function.

The DMWC Model achieves a greater degree of integration and consolidation relative to the Consortium Model by integrating the Consortium's components into one college. An increasing number of common capabilities would be elevated to the ETO, reducing duplicative capabilities across the enterprise. This model segments E&T activities using an academic structure (e.g., schools and departments) rather than an organization-based structure. It is a "five to two" model in that the five components are now combined into two main E&T components (a DMWC and USU).

The University Model achieves the greatest degree of integration by consolidating all activities under a single University umbrella. It is a "five to one" model with centralized management of all E&T functions.

Figure 16 illustrates the range of consolidation across each of the three models relative to the status quo.

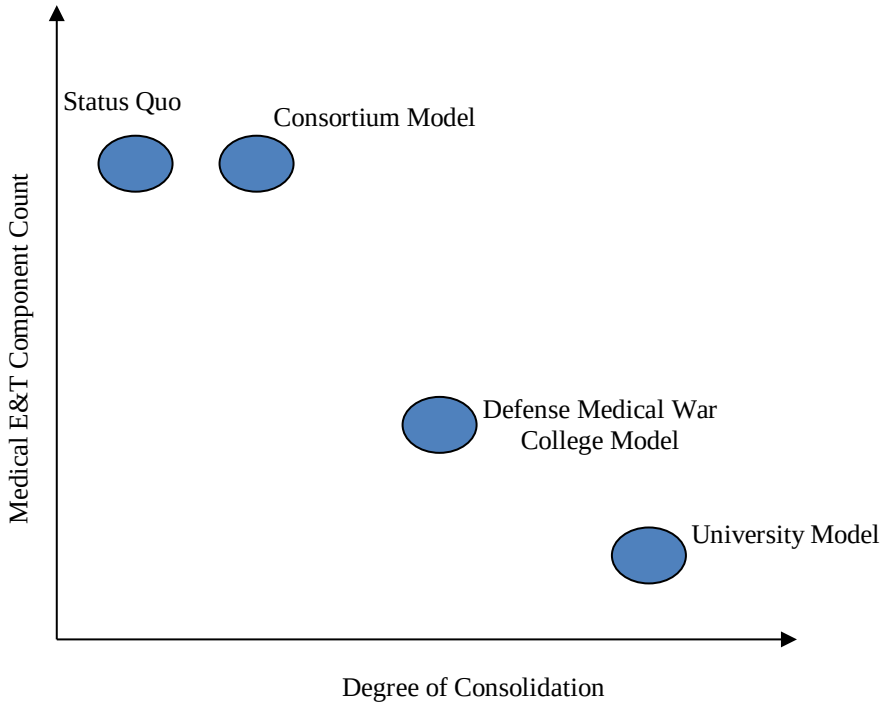


Figure 16. Summary of Models

6. Option Assessments

The previous chapter presented three approaches for consolidating medical E&T into a new DHA ETO. In this chapter, we analyze the feasibility and/or desirability of each approach relative to the status quo. The framework for this analysis is based on asking two simple questions: (1) Will the option make the enterprise more effective at achieving E&T objectives?, and (2) Will the option result in cost savings for the MHS?

A. Effectiveness Analysis

The organizational effectiveness analysis is based on a set of assessment criteria developed to help determined the desirability (or feasibility) of different organizational options. These criteria flow from enterprise objectives across eight different categories. The criteria are sub-divided into two general categories: (1) assessment criteria that capture potential benefits to organizational effectiveness, and (2) assessment criteria that capture potential risks to organizational effectiveness.

The potential benefits associated with consolidating the medical E&T enterprise were grouped into four main categories: medical readiness, standardization (and standards), economic efficiency, and enterprise administration. These categories reflect areas that could be improved through reform. Table 36 lists various objectives associated with each category and the assessment criteria that can be used to help assess whether a given option would promote realization of the objectives.

The potential risks associated with consolidating the medical E&T enterprise were also grouped into four main categories: organizational stability, accreditation risk, transition costs, and flexibility. These categories reflect areas that threaten reform efforts. Table 37 lists various objectives associated with each category and the assessment criteria that can be used to help assess whether a given option would promote realization of the objectives.

The remainder of this section discusses each of the categories in detail and provides an assessment of how IDA expects each option to perform relative to the status quo (and each other) based upon the assessment criteria. In the final section of this chapter, we present a summary analysis of the detailed discussion below and the cost analysis in Section B. We note that some of the option assessments are somewhat subjective. The ability of the different options (including the status quo) to achieve the objectives listed for each category will be highly dependent on leadership, governance, and execution.

Table 36. Potential Benefits Evaluation Categories, Objectives, and Criteria

Category	Objective	Assessment Criteria
Medical Readiness	• Improve student access to relevant clinical case mix • Expand instruction-days devoted to operational training • Expand opportunities for realistic operational training • Create E&T evaluation strategy that includes operational forces input • Align E&T research activities to operational requirements and adopt lessons learned into curriculum • Enhance joint capabilities and interoperability	1. Is there a single organization (or set of organizations) singularly focused on readiness? 2. Do the Services own or control training platforms providing operational sustainment and professional development E&T? 3. Is there a well-defined mechanism for input from the field to inform curriculum and training? 4. Will E&T activities conducted in a joint setting increase?
Standardizations (and Standards)	• Meet or exceed all minimum civilian professional standards and training requirements • Reduce variation in initial training and credentialing requirements • Reduce variation in clinical care delivery	1. Is there a common core curriculum (augmented by Service-specific training)? 2. Are minimum credentials and training requirements set enterprise-wide? 3. Are students trained to use the same equipment, procedures, and administrative processes (where appropriate)?
Economic Efficiency	• Seek economies of scale and scope • Reduce duplicative E&T functions • Optimize use of training resources	1. Are like medical E&T activities consolidated? 2. Can class size be increased? 3. Is there a reduction in the number of components providing all E&T functions?
Enterprise Administration	• Establish enterprise-wide strategic direction for medical E&T • Clarify DHA, USU, and Service mission roles and responsibilities. • Provide greater transparency into E&T volume, resources, and programs (including Training Affiliate Agreements (TAAs) across MHS. • Define medical E&T career paths for faculty/instructors • Improve training resources for faculty/instructors	1. To what degree is decision-making centralized? 2. Is there a reduction in the number of components with dual missions? 3. Are data on E&T volume, resources, and programs collected, organized, and analyzed centrally? 4. Are joint faculty/instructors properly resourced and supported?

Table 37. Potential Risk Evaluation Categories, Objectives, and Criteria

Category	Objective	Assessment Criteria
Organizational Stability	• Avoid complicating or disrupting ongoing MHS reform • Maintain Services' ability to conduct Service-specific training and promote their unique cultures • Avoid creation of duplicative capabilities across Services • Avoid creating unclear lines of command and control	1. To what degree are E&T activities realigned or consolidated? 2. To what degree do Services control E&T platforms and curriculum? 3. Is there a single authority for decisions?
Accreditation	• Avoid loss of USU institutional accreditation • Avoid need for greater DHA oversight of USU • Preserve academic independence in support of student training	1. Does the option alter USU reporting chain? 2. Does the option expand USU's role in non-academic operational training activities?
Transition Costs	• Avoid incurring large financial and opportunity costs (without clear Return on Investment) • Avoid substantive need for legislative change (or relief)	1. Does any component's E&T requirements and/or missions expand? 2. Is a new school or institution created? 3. To what degree are legislative changes required?
Flexibility	• Maintain ability to support fluctuations in student volume and occupation mix • Support changes to curriculum in response to changes in doctrine, changing requirements, equipment, and operational lessons	1. Are course capacity and/or course offerings strictly controlled? 2. Is the curriculum-setting process rigid and subject to review? 3. How many parties must approve changes in curriculum?

1. Medical Readiness

The 2017 NDAA and the subsequent 2019 NDAA have reinforced the need for a greater focus on the readiness mission. Medical E&T activities lie at the heart of medical readiness as they shape the medical workforce through initial, sustainment, and professional development training. Changing the organization of E&T activities could potentially provide benefits to medical readiness if the reorganization results in achievement of the readiness objectives outlined in Table 36. Many of these objectives require moving away from a system in which the beneficiary care mission defines the bulk of E&T opportunities.

Many would argue the MTFs were transferred to DHA so that the Services could focus on the readiness of the medical force (leaving DHA to manage the MTFs and beneficiary care). As the Services work to realign the medical force to the operational requirement, they must evaluate whether the beneficiary population can provide the appropriate variety, intensity, and volume of cases required for E&T, or if a greater subset of activities (e.g., certain GME, GHE, and other clinical training) should be moved to civilian facilities that draw upon a more diverse population of patients.

A successful ETO must have mechanisms for ensuring E&T activities are aligned to the operational mission to the greatest extent possible. There should be a single joint organization (or set of organizations) singularly focused on readiness to ensure the prioritization of the readiness mission. Furthermore, the Services must be able to evaluate the quality of the clinical training experience across training platforms and have strong influence and control over where their personnel conduct clinical training in order to support unique capabilities. The ETO should also continue to develop E&T programs and policy in response to changes in military requirements, civilian medical practice, research and development (R&D), and equipment acquisition to ensure a medically ready force. Finally, the ETO should work to increase the amount of E&T activities conducted in a joint setting to further promote joint capabilities and interoperability.

Based on the criteria outlined in Table 36 and discussed above, our overall assessment suggests the DMWC would offer the greatest potential benefit to medical readiness. Below we provide a summary of the reasoning behind this assessment.

- **The Consortium Model (CM):** The CM allows the Services to continue operating their respective medical E&T platforms/schools largely independently. The model therefore maintains strong Service influence, culture, and control—minimally affecting the Services' ability to train for Service/mission-unique requirements. Conversely, the option does not create an organization singularly focused on readiness and that may hinder the broadening of access to clinical case mix, diffusion of lessons learned, and training for joint missions.

- **The Defense Medical War College Model (DMWC):** The DMWC Model creates a single component, the DMWC, focused on maintaining a ready medical force through its School of Readiness and Sustainment and its School of Professional Development. This component would be Tri-Service and Service-led, allowing for a stronger Service influence relative to the University model or Consortium model. The envisioned structure of curriculum tracks would allow for both joint and Service-/mission- specific E&T activities. By bringing together all sustainment and professional development training, the DMWC could feasibly achieve the other potential readiness benefits (e.g., broader opportunities for relevant clinical/and or operational training, better alignment of training standards to operational and clinical needs, and faster diffusion of operationally focused research/lessons learned).
- **The University Model (UM):** The UM aligns all E&T activities under the University umbrella and creates a School of Operational Medicine to house the sustainment and professional development activities that would be housed in the DMWC (or the DMTC). While opportunities for joint training would increase, aligning the MHS readiness training mission under the same academic entity that houses the MHS education mission, rather than in a Service-run college, could potentially reduce Service-unique culture and influence over E&T activities. There would not be a single organization solely focused on the E&T for the readiness mission.

2. Standardization and Standards

There are several reasons for pursuing greater standardization (and standards) in medical E&T. First, there has been a strong congressional interest in joint medical capabilities and improving interoperability. This emphasis is echoed by the Joint Concept for Health Services (JCHS), which articulates the Chairman of the Joint Chiefs of Staff's vision for the medical enterprise.[70] Second, standardization can provide benefits to the beneficiary care mission, where DHA must work to reduce variation in clinical care delivery. Finally, it is important that military medical personnel meet or exceed the professional standards of comparable civilian healthcare workers in order to ensure the highest possible standards of care. For instance, Mabry et al. (2012) found that using CCFPs instead of standard army medics (EMTs) resulted in a substantially lower mortality

[70] The JCHS stated "the future medical force must be able to support Service-unique missions while also operating with an optimal degree of inter-Service integration. This integration begins with a base level of interoperability in which capabilities from more than one Service can operate together to accomplish assigned tasks at a joint theatre-wide scale." Joint Chiefs of Staff, "Joint Concept for Health Services (JC," August 2015, https://afrims.amedd.army.mil/media/joint_concept_health_services.pdf.

risk for patients evacuated from the war in Afghanistan (66 percent lower estimated mortality risk).[71] Use of CCFPs is standard in the civilian sector.

A counterargument is that greater standardization might harm the Services' ability to focus on their Service-specific and mission-specific requirements. A successful E&T organization should be able to drive some degree of increased standardization while still preserving a Service-unique curriculum. Providing an initial core curriculum for like occupations followed by Service-specific training is one model for achieving this goal. Ensuring use of the same equipment, procedures, and administrative processes (where appropriate) is another.

Based on the criteria outlined in Table 36 and discussed above, our overall assessment suggests the UM would likely have the greatest positive effect on standardization and standards, followed by the DMWC. The CM would also have positive effects, although to a lesser extent. Below we provide a summary of the reasoning behind this assessment.

- **The CM:** The CM would align initial E&T activities (largely education) under USU, resulting in greater standardization (and common standards) for MHS education. Similarly, the model would align sustainment and professional development E&T activities (largely training) to the newly created DMTC, which may also drive greater standardization. However, within the DMTC, Service-run schools would still be relatively free to set standards, control curriculum, and train students using Service-unique equipment, procedures, and processes.
- **The DMWC:** The DMWC would result in the same degree of standardization in education as the CM (same USU structure). However, the degree of standardization in training activities would likely be greater, as all other activities would merge into one college.
- **The UM:** Placing all medical E&T activities under a single UM would arguably drive the greatest standardization (and common standards) in medical E&T activities across the MHS.

3. Economic Efficiency

The range of potential cost savings and transition costs is addressed in Section B. Here we discuss some of the mechanisms that could drive potential economic efficiency. Today, the E&T enterprise is very decentralized. Each E&T stakeholder provides the common medical E&T capabilities discussed in Chapter 4 (e.g., registrar, library services,

---

[71] R. L. Mabry et al., "Impact of Critical Care-Trained Flight Paramedics on Casualty Survival during Helicopter Evacuation in the Current War in Afghanistan," *Journal of Trauma and Acute Care Surgery* 73, no. 2, suppl. 1 (August 2012): S32–S37, https://doi.org/10.1097/TA.0b013e3182606001.

LMS, and personnel management), resulting in duplicative capabilities. Like activities, such as the training of nurse anesthetists, is also conducted by more than one stakeholder, missing opportunities for economies of scale and scope that come with consolidation. Objectives for the medical E&T enterprise should include seeking economies of scale and reducing redundant capabilities (where appropriate). This may be particularly important as the medical force is downsized and fewer personnel and resources are available to conduct the E&T mission.

Merging like activities and providing enterprise-wide shared services (e.g., library services and LMS services) is one way to move toward greater economic efficiency. Combining resources at the course-level is another way to realize efficiencies. For instance, many of the initial training programs have common courses (for example, Anatomy or Biochemistry) that can be taught jointly. Alternatively, some courses could be pushed to a distributed learning format.

Based on the criteria outlined in Table 36 and discussed above, our overall assessment suggests the UM would likely have the greatest positive effect on economic efficiency, followed by the DMWC. Below, we provide a summary of the reasoning behind this assessment.

- **The CM:** The CM is the least consolidated model. Under this model, many duplicative capabilities persist, minimizing savings from economies of scale or scope. Still, we assess that some improvements in economic efficiency will occur as certain E&T capabilities are elevated to the DMTC (i.e., greater use of shared services) and some like activities are combined.
- **The DMWC:** As previously discussed, the DMWC consolidates MHS education activities under USU, and MHS training activities under the newly formed DMWC. This model is expected to achieve greater economic efficiency than the CM, as the DMWC would centrally administer the common E&T capabilities for its subcomponent. However, there would be duplication in many capabilities between the DMWC and USUHS.
- **The UM:** The UM would likely achieve the greatest economic efficiency, as it could centrally administer all common E&T capabilities. However, as a university, USU has a higher overhead rate structure than the other components, owing to its academic mission (research activities and centers, academic support, faculty development). This means efficiency savings may be somewhat offset by higher overhead costs.

4. Enterprise Administration

Under a decentralized system, it may be very challenging to set an overall strategic direction, organizational priorities, and policies that are needed to respond to the ongoing

MHS reform initiatives. Enterprise-wide transparency is also limited, which makes it difficult to examine medical E&T holistically.

A successful ETO should centralize strategic decision-making and clarify the roles and missions of each component to ensure a unity of effort. Transparency should also be improved to promote a better understanding of enterprise-wide activities and resources. A comprehensive catalog of courses, degree programs, TAAs, etc. should be maintained, along with data on student volume, student achievement, and student evaluation of the various courses. The data should be centrally stored, organized, and analyzed. Such a database would make it easier to continuously look across the enterprise for opportunities to combine or standardize like activities. Improved administration could expand opportunities for joint training and funnel students to the best-performing training affiliations. Support to faculty/instructors could be improved through enhanced sharing of materials.

Based on the criteria outlined in Table 36 and discussed above, our overall assessment suggests the UM would likely have the greatest positive effect on enterprise administration followed by the DMWC. Below, we provide a summary of the reasoning behind this assessment.

- **The CM:** The CM is the least consolidated model. Transparency would likely improve with the new ETO, but improvements would be smaller than those expected from the DMWC or UM. The model's decentralized nature would probably be likely to continue to present challenges for centralized decision-making and strategic direction.
- **The DMWC:** The DMWC creates two centrally administered components under the ETO. This would likely offer greater benefits towards transparency relative to the CM. However, data on courses, students, resources, etc. would still be collected and maintained by two different components. If the roles and missions of each component were clearly specified and separated, there could be a reduction in the number of components focused on multiple missions. Decision-making would be more centralized relative to the status quo and CM.
- **The UM:** The UM would centralize administration of the E&T enterprise, which would enable centralized decision-making and the establishment of an enterprise-wide strategic direction. It would also likely offer the greatest benefits towards transparency, as all data on E&T volume, resources, and programs would be centrally collected.

5. Organizational Stability

The medical E&T pipeline is a vital piece of the MHS. It is therefore important to ensure that efforts to reorganize and consolidate E&T activities will not threaten its

stability. DHA is currently in the process of assuming management of the MTFs, Medical R&D, and public health. Some feel that adding the medical E&T portfolio to its list of responsibilities may be "too much too soon." Another challenge associated with bringing together different Service components with DHA and USU is preserving clear lines of command and control. If there is not a single authority for decision-making, decisions will stagnate, and reform actions will likely be minimal. Finally, consolidation can threaten the Services' ability to conduct Service-specific training and promote their unique cultures. While these concerns are not without merit, a potential counterargument is that medical E&T and the E&T pipeline should serve as a cornerstone of MHS modernization. Establishing a more integrated E&T enterprise would serve as a natural first step in the transition towards a more integrated medical force with greater interoperability/joint mission capabilities.

A successful ETO must be carefully implemented to avoid risks to organizational stability. Options that require a high degree of realignment and consolidation will likely be the most risky to implement. Options that reduce Service control over E&T platforms and curriculum could also pose a risk to the E&T enterprise. Finally, options without a single decision-making authority could lead to implementation challenges and inefficient management.

Based on the criteria outlined in Table 37 and discussed above, we find the UM would likely present the greatest risk to organizational stability. Below we provide a summary of the reasoning behind this assessment.

- **The CM:** The CM is the most decentralized option and option closest to the status quo. As such, it minimizes the number of E&T activities that are realigned. It also largely preserves Service control of E&T platforms and curriculum. As a decentralized model, centralized decision-making and command and control could be problematic in the DMTC.
- **The DMWC:** The DMWC consolidates E&T activities into two main components, requiring a higher degree of realignment relative to the CM. Furthermore, it would require the establishment of a large, new university. This could create a period of significant uncertainty within the organization. The establishment would also require strong leadership to navigate the consolidation of programs across Services.
- **The UM:** The UM consolidates E&T activities under a single University umbrella, which would result in the highest degree of realignment across the options. This would entail a significant increase in the University's mission, which could create significant uncertainty and disruption. This option would also minimize Service control relative to the alternatives.

6. Accreditation Risk

Maintaining accreditation is of vital importance for ensuring USU's continued ability to support the licensure of healthcare professionals. Appendix D contains a short primer on the accreditation process and accrediting bodies. USU leadership has argued that aligning the University under DHA (as opposed to ASD(HA)) could threaten USU's institutional accreditation from the Middle States Commission on Higher Education (MSCHE), citing Standard VII: Governance, Leadership, and Administration as their primary concern. The IDA team reviewed this argument, its historical application, and counterarguments (see Appendix D). Our analysis concluded that it is unclear what position MSCHE and other accrediting bodies might take if the University were subordinated to DHA. While accreditation risk arguments can be made, there are often equally compelling counterarguments. We feel the alignment question is ultimately a political question.

To facilitate such decisions, we have provided three alternative models that would allow USU to maintain its current alignment to ASD(HA) (see Appendix D). We note this change would reduce DHA's operational oversight of certain medical E&T activities. It may also fail to achieve the consolidation envisioned by the Congress and directed in Section 711 of the FY 2019 NDAA.

Because each of the models presented in Chapter 5 align USU under DHA (as required by congressional direction), we assess they all pose equal risk to accreditation.

7. Transition Costs

A range of potential financial transition costs are addressed in Section B of this chapter. Here we discuss the factors that are expected to influence them. Financial transition costs are expected to increase whenever a component's E&T requirements or missions expand (or when a new institution or school is created). Opportunity costs also increase with the size of the reform. Large reorganizations are all-consuming, requiring large commitments of personnel, time, and resources that could be spent on other competing initiatives (or improving the status quo). Legislative or policy changes can also be required whenever an E&T mission, activity, or function is transferred from one component to another (depending on the circumstance and each component's authorities). The option summaries below discuss potential requirements for legislative changes.

One aspect of transition that is hard to grasp a priori is the timeline for change. The timeframe for consolidation would have a direct impact on transition costs, feasibility, and operational success. Reasonable timelines could provide organizations the opportunity to reshape requirements, coordinate any necessary legislative change, and reallocate resources, personnel, and materiel.

Based on the criteria outlined in Table 37 and discussed above, we find the DMWC would likely impose the greatest transition costs. Below, we provide a summary of the

reasoning behind this assessment. We note that two changes are universal to all three models: the realignment of USU to DHA, and the realignment of the GME oversight function to the new DHA ETO.

- **Universal Changes:** USU currently reports to the ASD(HA). Our models would require a change in the University's reporting to the Director of DHA. We note that USU previously reported to the Director of the TRICARE Management Activity (TMA), which became a part of DHA in 2013, and that the Director of DHA still reports to the ASD(HA). Second, with respect to GME, the 749 report outlines the proposed oversight and coordination of military GME programs. In the July 13, 2018 final report to the Congress, the GME working group proposed the establishment of a GME OAC and an Integration Advisory Board (IAB) that would both report through the Deputy Assistant Director for Medical Affairs to the Director of DHA.[72] Planning for implementation of new oversight processes began in late January of 2019 and the new processes have yet to be fully implemented.[73] Our proposed models call for a change to the reporting structure of the OAC and IAB to report to the Deputy Assistant Director for Education and Training. This change would require a modification to the final report.
- **The CM:** The CM would be expected to entail the smallest financial startup costs, but it would also save little through eliminating duplication. Legislative changes would likely be needed to realign GME oversight to the DMTC. The affiliation of the Service schools and the DHA J7 under the DMTC could be achieved through a DoD directive or memo outlining the shift in policy. The individual schools would continue to operate under Service control, but will share resources and common academic services through the DHA J7. The directive would grant the J7 the authority to establish a governance body and the affiliation between the Service schools.
- **The DMWC:** The DMWC would require standing up a new university. This would require the greatest startup costs. Legislative changes would also be required. The DMWC would be a new educational institution founded to parallel USU. In order to allow parity between similar DoD educational institutions, the DMWC could require a new chapter or modification to Title 10 of the U.S. Code. Currently, USU has its own chapter in Title 10 outlining the university's administration, governance, student eligibility, and research. Similarly, Title 10 provides that DoD schools receive specific guidance concerning degree-granting authority, eligibility, and, in some cases, organization and funding sources.

---

[72] USD(P&R), *Report on Oversight of Graduate Medical Education Programs*.

[73] GAO, "DEFENSE HEALTH CARE: DoD's Proposed Plan for Oversight of Graduate Medical Education Programs."

These institutions include the National Defense University, National Intelligence University, Defense Cyber Investigations Training Academy, and Defense Language Institute Foreign Language Center.

- **The UM:** The UM could leverage USU's existing infrastructure, but the University would need to greatly expand its current mission and functions. In addition, the UM would require the least legislative change; apart from changes to the University's reporting, we do not anticipate the need for additional legislative change, as the University's existing Title 10 authorities would not conflict with the additional responsibilities required under this model.

8. Flexibility

Today there is a considerable amount of flexibility in how the different components conduct their E&T activities. A challenge associated with the consolidation and centralized management of medical E&T is maintaining organizational flexibility. While greater standardization can offer clear benefits in some areas, maintaining flexibility in other areas is equally important. For example, rapid diffusion of operational lessons learned and innovative practices is clearly desired. However, as curriculum becomes more dynamic and training more integrated, it may be harder to implement change—especially if the desired curriculum change benefits only one Service. This could largely be addressed through a common core curriculum augmented by Service-specific tracks (as previously discussed).

A successful ETO should maintain the balance between standardization and flexibility by ensuring course capacity and offerings can be adjusted swiftly in response to Service demands. The Services should have mechanisms for easily introducing new curricula and lessons learned (e.g., Service-specific courses or tracks not subject to rigid review process).

Based on the criteria outlined in Table 37 and discussed above, we find all models could likely provide sufficient flexibility to adapt curriculum, maintain Service-specific or mission-specific courses, and to change the mix of course offerings and student volume (assuming the right mechanism were in place). We therefore expect very little variation across the models in flexibility but would probably expect the CM to provide the greatest flexibility, followed by the DMWC and UM, in that order.

- **The CM:** As the most decentralized model, the CM would enable great flexibility among the different components in setting curriculum. Course capacity and offerings would also be largely flexible. A potential disadvantage with the decentralized system is that resource pooling would be more limited. This could potentially constrain course offerings and training opportunities. Joint training opportunities could also be more constrained.

- **The DMWC:** The DMWC would allow the Services great flexibility in Service-specific training tracks. The pooling of resources into one college could also increase flexibility to offer a greater variety of training opportunities. Flexibility would be somewhat decreased in core curriculum tracks and initial requirements.
- **The UM:** The UM could also allow the Services great flexibility in Service-specific training tracks. There would also be more opportunity to pool resources. Like the DMWC, flexibility would be somewhat decreased in core curriculum tracks and initial education programs, where curriculum review processes would be more rigid.

B. Cost Savings Analysis

To inform the desirability of the reorganization options, IDA conducted an analysis of the projected cost savings of reorganization as well as the hypothesized transition costs. This analysis was conducted in three parts. First, using data provided by the component organizations, IDA conducted a sum-of-the-parts analysis to estimate the annual cost of the current E&T enterprise. This provides our baseline cost estimate to which we can compare the costs of the reorganization options. Second, using efficiency parameters, IDA conducted a synergy analysis to estimate the potential cost savings under each of the consolidation scenarios. These assumption-based calculations provide an idea of the magnitude of cost savings. Finally, we estimated the cost of transitioning to the consolidated enterprise structures using the best available financial data provided from the data call.

1. Sum of the Parts Analysis

A sum-of-the-parts analysis permits us to estimate the cost of the entire E&T enterprise by summing the costs of each of the individual component organizations. This approach is used in mergers and acquisitions to value firms with vastly different business segments.[74] This form of analysis also allows us to easily separate and move pieces of organizations to better understand reorganization options. In the section below, we describe this methodology and some important considerations for the calculations, and present the baseline cost of the medical E&T enterprise.

a. Methods

IDA received budget data from each of the Service training commands, as well as from DHA and USU. The quality and granularity of the data varied significantly across

---

[74] Aswath Damodaran, "The Value of Synergy" (New York: NYU Stern School of Business, October 2005), http://people.stern.nyu.edu/adamodar/pdfiles/papers/synergy.pdf.

organizations. We restricted our analysis to DHP-funded O&M and MILPERS dollars to permit fair comparisons across components. Air Force E&T activities are partially funded by line commands. Similarly, due to its dual research mission, much of USU's funding includes other appropriations that are less common in the other components such as RDT&E or Guidance for the Development of the Force (GDF) funds. Several programs within DHA provided spend plans, which did not include civilian pay, but instead provided a roster of instructors and staff that included relevant information on pay grade. For consistency across DHA, we calculated civilian pay for all of DHA using estimates from the FCoM tool sponsored by OSD CAPE.[75] MILPERS costs for all components were estimated using composite rates for FY 2018 and rosters provided by the component organizations.

To better understand the cost structure of the individual E&T components, IDA used the Service data to estimate overhead rates for each organization. Administrative staff costs were either directly estimated through personnel rosters provided by the Services or, if detailed rosters were unavailable, by multiplying total personnel costs by the proportion of administrative staff. These costs were estimated for both civilian and military overhead personnel. Overhead O&M was considered to consist of all costs not directly related to instruction and was identified to the extent possible through the line-item descriptions of the budget. Appendix E provides greater detail on the overhead calculations.

b. Results

Table 38 presents the sum-of-the-parts analysis of the current enterprise. Using this methodology and data provided by the components, IDA estimates the medical E&T enterprise to cost $783 million annually. Note that this figure excludes GME and GDE costs. The fact that the baseline cost is large, in excess of $700 million, suggests that small efficiency gains could result in sizeable savings. The synergy analysis will help explore the potential savings range.

[75] "Related CAPE Websites," OSD CAPE, https://www.cape.osd.mil/content/CAPEWebSites.html.

Table 38. Sum of the Parts Analysis – Baseline Medical E&T Enterprise ($000s)

	O&M	MILPERS	CIVPAY*	Total Component Cost
Army	$124,096	$158,776	-	$282,871
Navy	$66,084	$46,997	-	$113,081
Air Force	$23,382	$41,423	-	$64,805
DHA – LEADS & DMRTI	$5,423	$9,129	$2,483	$17,036
DHA – METC	$20,901	$14,341	$16,706	$51,948
DHA – J7 HQ	$9,865	$3,598	$1,646	$15,109
USUHS	$76,000	$48,250	$81,000	$205,250
Totals	**$325,751**	**$322,514**	**$101,835**	**$750,100**

* CIVPAY is included in O&M for Army, Navy, and Air Force. CIVPAY was estimated for DHA and USU. MILPERS does not include student costs.

c. Considerations

The sum-of-the-parts analysis has some limitations that must be considered. First, component E&T commands provided data at different organizational levels with varying degrees of precision. This assumption can lead to more accurate overhead estimates (not presented) for some components compared to others. Second, student MILPERS costs are not factored into the analysis. Including these costs could change the relative cost of certain components that emphasize clinical officer education. Finally, limiting the analysis to DHP-funded O&M and MILPERS dollars may not reflect the true operating environment of some of the component organizations. Including other funding sources dramatically changes the cost structure of USU. It is also unclear how much of the Air Force's medical E&T activities are funded by the line commands.

2. Synergy Analysis

The sum-of-the-parts analysis lays a useful foundation for analyzing consolidation options. We conducted an additional analysis to better understand the magnitude of savings possible through cost synergies that result from consolidation. For this analysis, we estimate savings along three dimensions: administration, instruction, and support costs. We then apply different parameters to estimate a range of savings for a given range of improvements to efficiency along each of the dimensions.

a. Methods

Building upon the sum-of-the-parts analysis, we realign costs according to the organizational structures outlined in each of the consolidation courses of action (COAs). Because data were provided at different organizational levels, some program costs could be directly observed but others did not have the necessary granularity to be pulled out and

reassigned elsewhere in the enterprise. To help partition these costs, which may not be fully separable, we use instruction-days to assign a proportion of the costs to the new organization. We use this same method for personnel costs, which were provided at the organizational level for all components. This would apply, for instance, if the COA called for moving individual courses or programs whose costs may not be directly separable from the larger organization. This method assumes that costs are linearly proportional to the "intensity" of instruction. Appendix E contains data on the number of students and instruction-days aligned to each component and sub-component for the status quo and under the three reform models.

Once costs are aligned to the proposed consolidation models, we then group costs into three categories, which correspond to the dimensions of economic efficiencies as summarized below.[76]

- **Administration Costs**: personnel costs associated with the management and administration of training programs. We assume an efficiency parameter range of 10–30 percent for consolidating programs.[77]
- **Instruction Costs**: personnel costs associated with the delivery of E&T. We assume an efficiency parameter range of 5–15 percent for consolidating programs.
- **Support Costs**: other non-personnel O&M costs associated with the delivery of training. We assume an efficiency parameter range of 5–15 percent for consolidating programs.[78]

For each COA, we calculate an annual enterprise cost to compare against baseline and provide a range of savings estimates. We present the range of savings in the following section.

b. Results

Table 39 presents the range of potential savings through consolidation. Each option assumes either the low, middle, or high parameter value across each of the three

---

[76] Ricardo Azziz et al., "Mergers in Higher Education: A Proactive Strategy to a Better Future?" (New York: TIAA Institute, September 2017), https://www.ey.com/Publication/vwLUAssets/ey-tiaa-institute-mergers-in-higher-education/%24File/ey-tiaa-institute-mergers-in-higher-education.pdf.

[77] John A. Kastor, "Failure of the Merger of the Mount Sinai and New York University Hospitals and Medical Schools: Part 2," *Academic Medicine* 85, no. 12 (December 2010): 1828–32, https://doi.org/10.1097/ACM.0b013e3181f65019.

[78] Cynthia R. Cook and John C. Graser, "Chapter 9: Overhead, General, and Administrative Costs," in *Military Airframe Acquisition Costs: The Effects of Lean Manufacturing*, MR-1325-AF (Santa Monica, CA: RAND Corporation, 2001), https://www.rand.org/content/dam/rand/pubs/monograph_reports/MR1325/MR1325.ch9.pdf.

dimensions. For instance, the CM would be expected to save $16 million annually if administration costs fell 10 percent and instruction and support costs both fell 5 percent as a result of consolidation. The UM, the most consolidated option, yields the greatest predicted savings. Appendix E contains greater detail on the calculation of the estimated savings ranges.

Table 39. Estimated Range of Cost Savings (in Millions)

Model	Saving Range ($)	Savings Range (%)	Mid-Point
CM	$16 to $48	2% to 6%	$32 (4%)
DMWC	$30 to $90	4% to 11%	$60 (8%)
UM	$35 to $104	4% to 13%	$69 (9%)

c. Considerations

While the parameter efficiency estimates are approximations derived from previous work in the MHS, it is unclear if these savings are realistic in the current operating environment.[79] We also assume that instruction quality remains constant. That is to say that a reduction in administrative or instructive staff does not come at the expense of quality of instruction. Finally, we assume a constant overhead rate for the entire component organization. This may not hold true for all programs, as degree-granting education programs may have greater administrative burden than a short clinical training course.

3. Transition Costs Estimate

The final element of the economic analysis estimates a range of possible transition costs incurred through the consolidation of organizations within the enterprise. The goal of these estimates is to provide policymakers with a reasonable idea of the one-time costs of reorganization to help them weigh the COAs against any potential savings. One important element this analysis cannot capture, however, is the time required to implement changes. It is important to consider the timing and pace of change, as they can have implications for cost, organizational capacity, and readiness.

a. Methods

As detailed financial data were not provided for all components, line item costs were imputed from USU's budget. USU had the most precise budget, with observable costs for many support functions, such as academic journal subscriptions, LMSs, and IT support. We therefore assume that a new institution such as the DMWC would have similar support

[79] Eric W. Christensen et al., "Cost Implications of a Unified Medical Command," CRM D0012842.A3 (Alexandria, VA: CNA, May 2006), https://www.cna.org/CNA_files/PDF/D0013842.A3.pdf.

costs to USU. We then take USU's support costs and scale them by the number of instruction-days to estimate an annual cost for the new post-consolidation institution. Using examples from the academic literature, we assume that stand-up costs for new academic support functions are a percentage of the annual cost.[80] These factors are derived from a survey of US universities of varying sizes that implemented new academic support systems (e.g., registrar, human resources software, or LMS). We apply a range of these factors from 0–50 percent to account for the cost of implementing a new system. For programs being merged into USU, we scale USU's support costs to account for the additional instruction-days, but do not add the implementation factor. To complete the transition cost analysis, we separately estimate any duplicative support costs that would be removed through consolidation. These costs are identified directly from the component budgets.

b. Results

Table 40 presents the results of the transition cost analysis. The first two columns present the estimated implementation (or gross) transition costs derived from varying implementation cost adjustment factors. The best estimate is based on a 20 percent factor, while the range is based on factors of 0 to 50 percent. We think this range is a reasonable estimate, although implementation costs would depend upon myriad factors such as effective program management, implementation timeline, existing infrastructure, and operational requirements.[81] Higher education IT project costs vary considerably.[82] The third column present the sum of duplicative costs that could be eliminated through consolidation. The final two columns present the net transition costs—the gross transition costs minus the duplicative costs.

---

[80] David Trevvett, *Enterprise Application Projects in Higher Education* (Louisville, CO: EDUCAUSE Center for Analysis and Research, August 2013), https://library.educause.edu/-/media/files/library/2013/8/ers1306-pdf.

[81] Robert B. Kvavik et al., *The Promise and Performance of Enterprise Systems for Higher Education*, Volume 4 (Boulder, CO: EDUCAUSE Center for Applied Research, 2002), https://www.educause.edu/ir/library/pdf/ERS0204/rs/ers0204w.pdf.

[82] Trevvett, *Enterprise Application Projects.*

Table 40. Estimated Range of Transition Costs

	Gross Transition Costs		Duplication Savings	Net Transition Costs	
Model	**Best Estimate**	**Range**	**Best Estimate**	**Best Estimate**	**Range**
CM	$71	$59 to $89	$10	$61	$49 to $79
DMWC	$94	$78 to $118	$38	$56	$40 to $80
UM	$79	$63 to 118	$38	$41	$25 to $80

Note: The best estimate of gross transition costs is based on an implementation factor of 20 percent. The range explores factors of 0 to 50 percent.

The CM, which represents the least amount of consolidation, also removes the least amount of duplicative costs, leading to the highest transition costs. The UM leverages existing infrastructure and avoids the implementation costs of new support functions. This explains the relatively lower transition costs as compared to the DMWC model.

c. Considerations

There are some important limitations to the analysis of transition costs. First, we assume that all educational activities require similar levels of academic support as USU. This assumption may not hold true for distributed learning courses or non-degree granting training. Second, the limited granularity of the data received does not allow for the full identification of duplicative costs and support activities. This limitation may lead to an underestimate of the savings from consolidating shared functions. Third, the analysis assumes that the DMWC does not leverage existing infrastructure. Costs could potentially be lower if it leveraged a Service's existing infrastructure, such as the infrastructure of AMEDDC&S, the largest of the current Service E&T commands. Finally, the analysis relies on assumptions and estimates of implementation costs derived from a survey of civilian academia. The cost structures of a civilian university and the vendor pricing these institutions receive may not translate well to the government or military sectors.

4. Summary

Table 41 presents an overview of the costs of economic analyses condensed into a single table. In the table, we use the middle efficiency estimates from the synergy analysis and the best estimates from the transition cost analysis to summarize the potential economic efficiencies of the three consolidation models. While the annual savings estimates are modest (ranging from $30 to $70 million), the cumulative savings would be expected to exceed the initial transition costs after several years.

Table 41. Estimated Annual Savings and Transition Costs

	Annual Estimated Operation Costs	Annual Estimated Savings	Net Transition Costs
Current	$783	-	
CM	$753	$30	$61
DMWC	$722	$61	$56
UM	$711	$72	$41

Note: Estimates shown in table used middle efficiency estimates from synergy analysis and best estimates from transition cost analysis.

C. Summary of Option Evaluations

Figure 17 presents a summary of the option assessments. For each category, we indicate where each option falls relative to the status quo on a spectrum meant to illustrate potential benefits and risks. The further to the right an option falls, the greater its expected benefit. Conversely, the further to the left an option falls, the greater its potential to induce risk. We note that the placement and ranking of the options is somewhat subjective.

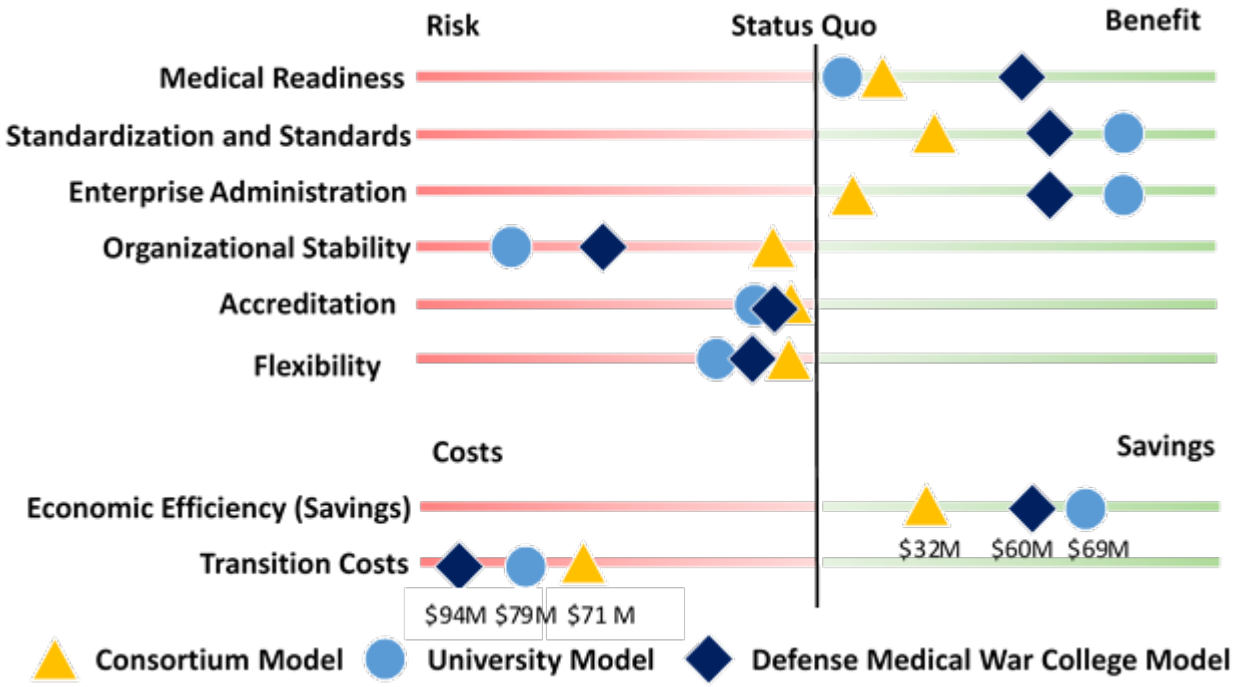


Figure 17. Summary of Option Assessments

From the figure, it is clear that the CM likely offers the fewest benefits but also the fewest risks. The DMWC and UM, on the other hand offer greater benefits and risks. More specifically, we assess the DMWC would offer the greatest benefit towards medical

readiness while also presenting the highest transaction cost risk. Similarly, the UM would offer the greatest benefits towards standardization, economic efficiency, and enterprise administration while also posing the greatest risk to organizational stability and flexibility.

7. Conclusions and Recommendations

The MHS runs a large medical E&T enterprise that consumes over $2.2 billion in DoD resources annually.[83] Today, the enterprise is very decentralized—it is the sum of many different organizations conducting a wide variety of E&T activities, rather than an integrated education system. Below, we summarize several key findings on the current medical E&T enterprise.

A. Findings

- **The MHS E&T enterprise carries out a large and diverse set of activities:** In terms of initial E&T, the enterprise provides everything from technical training in health science fields (similar to associate degree programs found at community colleges), to medical degrees (M.D.s) and physician sub-specialty training (residency programs), to doctoral degrees in multiple fields. In addition to initial E&T, the enterprise also provides a significant amount of sustainment and professional development training.
- **Initial medical E&T accounts for the largest volume of E&T activities:** Initial E&T activities account for nearly 90 percent of all instruction-days. Approximately two-thirds of these instruction-days are devoted to officer training, while the remaining one-third is devoted to enlisted training. This difference is driven by the long training times required to earn advanced medical degrees and to complete required postgraduate specialty training.
- **The majority of medical E&T is focused on providing medical competencies:** Just over 60 percent of E&T instruction-days were classified as providing medical competencies (as opposed to military medical competencies). Approximately 30 percent of activities were classified as providing general military medical competencies while only 7 percent were classified as providing Service- or environment-specific competencies.
- **There is duplication of like programs (or courses) across the enterprise:** The IDA team found several examples of similar programs being offered by different components across the enterprise. Perhaps the best example was the duplication occurring between AMEDDC&S's Army-Baylor program and USU's graduate

[83] We identified nearly $2.3 billion in medical E&T O&M and MILPERS dollars. This does not include MILCON or RDT&E. See Chapter 4 for greater detail.

programs, both of which offer graduate programs in nurse anesthesia and health administration. Other Services also contract with civilian institutions to provide degrees also offered by USU. For example, the Air Force partners with Wright State University to provide a master's degree in public health to residents in their preventative medicine and occupational medicine program.

- **There is significant duplication of common E&T functions:** Each component maintains the capability to carry out many if not all of the common E&T functions listed in Chapter 3—providing accreditation, continuing education, curriculum and faculty development, library and learning resources, LMS, IT support, life support training, logistics and campus management, medical modeling and simulation, personnel management, and registrar. There are likely economic advantages to providing some subset of these activities at an enterprise-wide level.
- **There are different standards for like professions across the enterprise:** When different organizations provide the same degree programs or technical training, standards and requirements can vary. For instance, in the case of the Army and USU nurse anesthesia programs, there are differences in required clinical training hours. For enlisted personnel, there are different certification requirements across the big three emergency medicine technician (EMT)-like occupations (Army medics, Navy corpsmen, and Air Force technicians). Specifically, Army and Air Force personnel require an EMT-Basic (EMT-B) certification while Navy corpsmen do not. The EMT-B is a nationally recognized standard for entry-level civilian EMTs.[84] There have also been differences in critical care training requirements for flight paramedics.[85]
- **Transparency into the medical E&T enterprise is currently limited:** Today there is very little transparency into the E&T enterprise as a whole. Centralized databases provide little insight into breadth and depth of activities occurring across the enterprise, the total student volume, and total resources. This project, which represents the first attempt to provide a comprehensive analysis of the entire enterprise, required a large number of data calls. Without greater centralization, this organizational opacity will likely remain the case, which may impede efforts to drive greater integration and standardization.

One benefit of the decentralized nature of the current enterprise is that it strongly preserves each Service's Title 10 authority to "recruit, organize, train and equip" their

---

[84] Stephen Harper et al., "An Assessment of National EMT Certification Among Enlisted Military Medics," *Military Medicine* 182, no. suppl_1 (March 2017): 336–9, https://doi.org/10.7205/MILMED-D-16-00238.

[85] Mabry et al., "Impact of Critical Care-Trained Flight Paramedics."

respective medical personnel. Today the Services have significant flexibility in setting curriculum and training requirements and ample opportunity to promote their own unique professional cultures, as the majority of training is carried out in Service-run programs on Service-run E&T platforms. On the other hand, a decentralized system enables a lack of standardization (and standards), which may negatively affect the operational mission (by hindering greater interoperability and development of joint medical capabilities) and the beneficiary care mission (by allowing for greater variation in clinical care experiences). Opportunities to achieve economic efficiencies by consolidating like activities or reducing redundant capabilities have also gone unrealized. Finally, and perhaps most importantly, a decentralized medical E&T enterprise may face significant challenges in setting an overall strategic direction, organizational priorities, and policies that are needed to respond to the ongoing MHS reform initiatives.

We note a connection between the findings on the medical E&T enterprise and a recent Navy "clean-sheet" review of naval education.[86] That study found:

> There is no overall strategic direction or leadership for naval education or naval organizational learning; nor a successful value proposition for education as a unifying naval warfare capability; nor effective unity of command in its resourcing, policy and programming for education; nor correct prioritization of educations vital role in balancing the character and nature of war.

To address these challenges, a major reorganization of the naval education institutions was recommended, along with the formation of a new naval university. The final report noted the proposed structure retains the special characteristics and strengths of each institution while aligning policy, budget, and acquisition authority.

We note that many of the challenges cited above for the Navy education enterprise echo the challenges facing the medical E&T enterprise and that a major reorganization of medical E&T may well be part of the solution. However, reorganizing medical E&T will likely present a greater challenge, as it would entail a Tri-Service reorganization. In Chapter 5, we explored several general approaches to reorganizing medical E&T under a new DHA ETO. Our assessment of these options found that each option could yield potential benefits to the organizational effectiveness of the medical E&T enterprise as well as potential cost savings. However, these options were not without risks or significant transition costs.

B. Recommendations

Rather than recommending the adoption of one of these specific approaches, we provide a more general set of recommendations for reforming the medical E&T enterprise.

---

[86] Department of the Navy, *Education for SEAPOWER*.

These stem largely from the medical E&T inventory and taxonomy developed in Chapter 3, the enterprise-wide analysis presented in Chapter 4, the final conclusions summarized above, and the many transitions ongoing in the MHS today.

1. Framework for Reorganizing of E&T Activities

- Initial classroom-based E&T activities primarily focused on producing medical competencies should be aligned to USU (if to be provided directly by the E&T enterprise) or carried out in the civilian sector (through scholarship programs like HPSP). As the MHS's flagship academic institution, USU could provide all higher medical education in a joint environment. This realignment would require three changes to USU's current structure, including (1) an METC/CAHS merger, (2) a USAGPAN/GSN merger, and the (3) formation of a GSPH. Locating all higher medical education and degree programs under one entity will increase standardization and transparency. The costs and benefits of providing these activities in-house (as opposed to outsourcing them to the civilian sector) should be routinely assessed to ensure the value proposition.
- Initial MTF-based E&T activities primarily focused on producing medical competencies (including Phase II enlisted training, GME, GDE, and GHE) should remain in the control of the Services (with some exceptions for clinical training that is part of a USU degree program). As DHA assumes management of the MTFs, it will likely be preoccupied with the beneficiary care mission and lack the bandwidth to prioritize operational training. Clinical training programs should be controlled by the Services, as they have the strongest incentive to focus on the readiness mission. Furthermore, as the Services work to realign the medical force to the operational requirement, they must evaluate whether the MTFs can provide the appropriate variety, intensity, and volume of cases required for E&T or if a greater subset of activities (e.g., certain GME, GHE and other clinical training) should be moved to large civilian facilities that draw upon a more diverse population of patients.
- Sustainment and professional development programs (or courses) that provide general military medical competencies should align to DHA. These programs are unique to military medicine (not easily outsourced) but common across each Service. Aligning them to DHA and conducting them in a joint setting can increase standardization, improve interoperability, and lead to economic efficiencies. Transparency will also be improved.
- E&T activities focused on producing military medical competencies that are largely Service- or environment-specific should be carried out directly by the individual Services (or under strong Service influence). Consolidating such trainings would hinder readiness and the Service-specific capabilities necessary

to support unique operational environments. These activities should align to Service E&T commands.

2. Framework for Consolidating E&T Functions

- Some subset of the common E&T functions carried out by each component (e.g., LMS, medical modeling and simulation, continuing education) should be consolidated (elevated to the ETO and provided enterprise-wide) to gain economic efficiencies.
- Detailed business case analyses should be carried out to determine which functions should be consolidated (elevated to the ETO and centrally provided) versus which should remain decentralized. The component budget data we collected in the course of this project did not provide enough detail to make these determinations.

Appendix A.
Authorities for Medical Training

A. Summary

Long-standing sections of the U.S. Code provide the Surgeons General of the Army, Navy, and Air Force the authority to "recruit, organize, train and equip" their respective medical personnel.

The Defense Health Agency (DHA) was stood up in fiscal year (FY) 2014 in response to language contained in Section 731 of the National Defense Authorization Act (NDAA) for FY 2013. On September 30, 2013, DoD issued Directive 5136.13, which established DHA.[1] That directive mentions the word "training" only once, in paragraph 5.a.11, among the shared services over which the Director, DHA exercises management responsibility.

The precise role of the Director, DHA in managing medical education and training (E&T) remained largely ambiguous until the passage of the NDAA for FY 2017. Section 707 established the Joint Trauma System (JTS), and Section 708 went on to establish the Joint Trauma Education and Training Directorate (JTETD).[2]

In response to Section 708 of the 2017 NDAA, DoD issued an interim implementation plan that placed the JTETD within DHA (p. 1):

> The JTETD will serve as the reference body for coordination of partnerships with civilian academic and large metropolitan hospitals, sharing partnership lessons learned, developing standardized combat casualty care instruction for all members of the Armed Forces, and promoting the use of standardized trauma training platforms. In conjunction with the Joint Trauma System (JTS) established under section 707, the JTETD will develop a comprehensive trauma care registry, direct the conduct of research on the leading cause of combat morbidity and mortality of members of the Armed Forces, and develop quality of care outcome measures designed to improve combat casualty care across the Military Health System (MHS).[3]

---

1 DoD Directive 5136.13, "Defense Health Agency (DHA)," September 30, 2013.

2 Sections 707 and 708 of the 2017 NDAA modify U.S. Code, Title 10 (Armed Forces), Subtitle A (General Military Law), Part II (Personnel), Chapter 55 (Medical and Dental Care), Section 1071.

3 DoD, *Establishment of Joint Trauma Education and Training Directorate: Interim Report and Implementation Plan*, February 14, 2018, https://health.mil/Reference-Center/Reports/2018/02/14/Joint-Trauma-Education-and-Training-Directorate, downloaded on December 3, 2018.

Further, the interim implementation plan outlined the working relationships among the Military Departments (MILDEPs), DHA, and civilian academic institutions (p. 2):

> This plan is based on the assumption that the MILDEPs and the DHA will work together in determining training requirements (including trauma training). The MILDEPs will describe Service training requirements in support of operational medical readiness to the DHA Director. The DHA will support the operational medical readiness mission of the MILDEPs. For example, the JTETD will provide support to the MILDEPs and the DHA, which may enter into partnerships with civilian academic institutions that enable military-led trauma teams to work in trauma centers to maintain trauma care professional competency. In addition, the JTETD within the DHA will provide the MILDEPs a listing of current and planned dedicated functions and resources in support of the readiness mission. The JTETD will develop standardized agreement support documents and templates that can be used for both JTETD and MILDEPs-initiated partnerships.

Finally, Section 749 of the 2017 NDAA established a process for oversight of Graduate Medical Education (GME) programs. DoD's report in response to that section provides additional specificity on the interactions between the MILDEPs and DHA (p. 3):

> MILDEPs will have primary responsibility for identification of operational requirements and the organizing of medical personnel. Services will determine the number and specialty of personnel to be trained. MILDEPs will coordinate placement of Service-selected DHA personnel within the confines of the oversight process described in this report, relevant MILDEP personnel regulations, and the direction of DHA for GME.[4]

Sections 708 and 749 of the 2017 NDAA—and DoD's reports in response to those two sections—begin to create the overlaps between and relationships among the training functions of the MILDEPs and those of DHA.

B. The Military Departments

The authorities for the Surgeons General of the Army, Navy, and Air Force to "recruit, organize, train and equip" their respective medical personnel are provided in long-standing, virtually parallel sections of the U.S. Code.

Title 10 › Subtitle B › Part I › Chapter 305 › § 3036(f)(3).

10 U.S. Code § 3036 - Chiefs of branches: appointment; duties

(f) [Surgeon General of the Army]

---

[4] USD(P&R), *Report on Oversight of Graduate Medical Education Programs of Military Departments: Final Report*, July 13, 2018, accessed on December 3, 2018, https://health.mil/Reference-Center/Congressional-Testimonies/2018/07/13/Oversight-of-GME-Programs-of-Military-Departments.

(1) The Surgeon General serves as the principal advisor to the Secretary of the Army and the Chief of Staff of the Army on all health and medical matters of the Army, including strategic planning and policy development relating to such matters.

(2) The Surgeon General serves as the chief medical advisor of the Army to the Director of the Defense Health Agency on matters pertaining to military health readiness requirements and safety of members of the Army.

(3) The Surgeon General, acting under the authority, direction, and control of the Secretary of the Army, shall *recruit, organize, train, and equip,* medical personnel of the Army [emphasis added].

Title 10 › Subtitle C › Part I › Chapter 513 › § 5137(b)(3)

10 U.S. Code § 5137 – Surgeon General [of the Navy]: appointment; duties

(b) Duties.—

(1) The Surgeon General serves as the Chief of the Bureau of Medicine and Surgery and serves as the principal advisor to the Secretary of the Navy and the Chief of Naval Operations on all health and medical matters of the Navy and the Marine Corps, including strategic planning and policy development relating to such matters.

(2) The Surgeon General serves as the chief medical advisor of the Navy and the Marine Corps to the Director of the Defense Health Agency on matters pertaining to military health readiness requirements and safety of members of the Navy and the Marine Corps.

(3) The Surgeon General, acting under the authority, direction, and control of the Secretary of the Navy, shall *recruit, organize, train, and equip,* medical personnel of the Navy and the Marine Corps [emphasis added].

Title 10 › Subtitle D › Part I › Chapter 805 › § 8036(b)(3)

10 U.S. Code § 8036 – Surgeon General [of the Air Force]: appointment; duties

(b) Duties.—

(1) The Surgeon General serves as the principal advisor to the Secretary of the Air Force and the Chief of Staff of the Air Force on all health and medical matters of the Air Force, including strategic planning and policy development relating to such matters.

(2) The Surgeon General serves as the chief medical advisor of the Air Force to the Director of the Defense Health Agency on matters pertaining to military health readiness requirements and safety of members of the Air Force.

(3) The Surgeon General, acting under the authority, direction, and control of the Secretary of the Air Force, shall *recruit, organize, train, and equip*, medical personnel of the Air Force [emphasis added].

C. The Uniformed Services University of the Health Sciences

DoD's authority to operate the Uniformed Services University of the Health Sciences (USU), including that institution's E&T missions, is also spelled out in the U.S. Code.

Title 10 › Subtitle A › Part III › Chapter 104 › § 2112(a)

10 U.S. Code § 2112 – Establishment

a) [Uniformed Services University of the Health Sciences]

(1) There is established a Uniformed Services University of the Health Sciences (in this chapter referred to as the "University") with authority to grant appropriate certificates, certifications, undergraduate degrees, and advanced degrees.

(2) The University shall be so organized as to graduate not fewer than 100 medical students annually.

(3) The headquarters of the University shall be at a site or sites selected by the Secretary of Defense within 25 miles of the District of Columbia.

D. Establishment of the Defense Health Agency

DHA was established in response to Section 731 of the NDAA for FY 2013 (Public Law 112-239, enacted January 2, 2013). The NDAA mandated that the Secretary of Defense shall:

> develop a detailed plan to carry out [reforms to the governance of the military health system] … including goals with respect to improving clinical and business practices, cost reductions, infrastructure reductions, and personnel reductions, achieved by *establishing the Defense Health Agency*, carrying out shared services [the common services required for each military department to provide medical support to the Armed Forces and authorized beneficiaries], and modifying the governance of the National Capital Region [emphasis added].

The establishment of DHA was codified in U.S. Code, Title 10 (Armed Forces), Subtitle A (General Military Law), Part II (Personnel), Chapter 55 (Medical and Dental Care), Section 1071.

On September 30, 2013, DoD issued Directive 5136.13, which established DHA, disestablished the TRICARE Management Activity (TMA), and transferred all former TMA functions to DHA.[5] That directive mentions the word "training" only once, in paragraph 5.a.11:

> The Director, DHA … *Exercises management responsibility for* shared services, functions, and activities in the MHS, including but not limited to, the TRICARE Health Plan, pharmacy programs, *medical education and training*, medical research and development, health information technology, facility planning, public health, medical logistics, acquisition, budget and resource management, other common business and clinical processes, and other shared or common functions or processes, as determined by the ASD(HA). The Director, DHA will develop appropriate management models to most effectively and efficiently assume responsibility for particular functions and processes [emphasis added].

E. The National Defense Authorization Act for FY 2017

The role of the Director, DHA in medical training was clarified and strengthened in the NDAA for FY 2017 (Public Law 114-328, enacted December 23, 2016).

1. Section 702 – Reform of Administration of the Defense Health Agency and Military Medical Treatment Facilities

Section 702 of the FY 2017 NDAA amended Chapter 55 of Title 10 U.S Code by inserting the new section 1073c: Administration of Defense Health Agency and Military Medical Treatment Facilities. In particular, according to Section 1073c(c)(4)(A/B):

> (A) There is in the Defense Health Agency a Deputy Assistant Director for Medical Affairs.
>
> (B) The Deputy Assistant Director for Medical Affairs shall be responsible for policy, procedures, and direction of clinical quality and process improvement, patient safety, infection control, *graduate medical education*, clinical integration, utilization review, risk management, patient experience, and civilian physician recruiting [emphasis added].

2. Section 707 – Joint Trauma System

Section 707 of the FY 2017 NDAA called for the establishment of the Joint Trauma System. In anticipation of enactment, DoD issued Directive 6040.47, "Joint Trauma System," on September 28, 2016. DoD updated that directive on August 5, 2018, so that the Director, DHA replaced the Secretary of the Army as the Military Health System's

---

[5] DoD Directive 5136.13, "Defense Health Agency (DHA)," September 30, 2013.

Lead Agent for trauma care.[6] The directive also recognizes the Joint Trauma System as a DoD Center of Excellence (DCoE).

Directive 6040.47 provides additional specificity as to DHA's role in E&T as those functions relate to the Joint Trauma System:

> 2.3 Director DHA:
>
> a. Through the CJCS [Chairman of the Joint Chiefs of Staff], supports the CCMDs [Combatant Commands] as the designated Combat Support Agency pursuant to DoD Directive 5136.13 on DoD trauma care initiatives, standards, and education to ensure Service trauma capabilities meet CCMD requirements…
>
> e. Coordinates through established governance to recommend standardized DoD trauma education and training on medical readiness and trauma care delivery within DoD.
>
> f. Incorporates medical readiness training and skills sustainment across the full range of military operations in accordance with DoDI 1322.24 to support current and emerging trauma care initiatives[7]…
>
> n. Coordinates with the Military Services and CCMDs to:
>
> (1) Establish standard performance metrics and procedures for DoD trauma care in coordination with the JTS.
>
> (2) Supports and maintains medical readiness training and trauma care programs in accordance with DoDI 1322.24.

3. Section 708 – Joint Trauma Education and Training Directorate

Section 708 of the FY 2017 NDAA went on to establish the Joint Trauma Education and Training Directorate.

> (a) ESTABLISHMENT.—The Secretary of Defense shall establish a Joint Trauma Education and Training Directorate (in this section referred to as the "Directorate") to ensure that the traumatologists of the Armed Forces maintain readiness and are able to be rapidly deployed for future armed conflicts. The Secretary shall carry out this section in collaboration with the Secretaries of the military departments.
>
> (b) DUTIES.—The duties of the Directorate are as follows:
>
> (1) To enter into and coordinate the partnerships under subsection (c).

---

6 DoD Instruction 6040.47, "Joint Trauma System (JTS)," updated August 5, 2018.

7 DoD Instruction 1322.24, "Medical Readiness Training (MRT)," March 16, 2018.

(2) To establish the goals of such partnerships necessary for trauma teams led by traumatologists to maintain professional competency in trauma care.

(3) To establish metrics for measuring the performance of such partnerships in achieving such goals.

(4) To develop methods of data collection and analysis for carrying out paragraph (3).

(5) To communicate and coordinate lessons learned from such partnerships with the Joint Trauma System established under section 707.

(6) To develop standardized combat casualty care instruction for all members of the Armed Forces, including the use of standardized trauma training platforms.

(7) To develop a comprehensive trauma care registry to compile relevant data from point of injury through rehabilitation of members of the Armed Forces.

(8) To develop quality of care outcome measures for combat casualty care.

(9) To direct the conduct of research on the leading causes of morbidity and mortality of members of the Armed Forces in combat.

(c) PARTNERSHIPS.—

(1) IN GENERAL.—The Secretary may enter into partnerships with civilian academic medical centers and large metropolitan teaching hospitals that have level I civilian trauma forward surgical teams, with maximum exposure to a high volume of patients with critical injuries.

(2) TRAUMA TEAMS.—Under the partnerships entered into with civilian academic medical centers and large metropolitan teaching hospitals under paragraph (1), trauma teams of the Armed Forces led by traumatologists of the Armed Forces shall embed within the trauma centers of the medical centers and hospitals on an enduring basis.

(3) SELECTION.—The Secretary shall select civilian academic medical centers and large metropolitan teaching hospitals to enter into partnerships under paragraph (1) based on patient volume, acuity, and other factors the Secretary determines necessary to ensure that the traumatologists of the Armed Forces and the associated clinical support teams have adequate and continuous exposure to critically injured patients.

(4) CONSIDERATION.—In entering into partnerships under paragraph (1), the Secretary may consider the experiences and lessons learned by the

military departments that have entered into memoranda of understanding with civilian medical centers for trauma care.

(d) PERSONNEL MANAGEMENT PLAN.—

(1) PLAN.—The Secretary shall establish a personnel management plan for the following wartime medical specialties:

(A) Emergency medical services and prehospital care.

(B) Trauma surgery.

(C) Critical care.

(D) Anesthesiology.

(E) Emergency medicine.

(F) Other wartime medical specialties the Secretary determines appropriate for purposes of the plan.

(2) ELEMENTS.—The elements of the plan established under paragraph (1) shall include, at a minimum, the following:

(A) An accession plan for the number of qualified medical personnel to maintain wartime medical specialties on an annual basis in order to maintain the required number of trauma teams as determined by the Secretary.

(B) The number of positions required in each such medical specialty.

(C) Crucial organizational and operational assignments for personnel in each such medical specialty.

(D) Career pathways for personnel in each such medical specialty.

(3) IMPLEMENTATION.—The Secretaries of the military departments shall carry out the plan established under paragraph (1).

(e) IMPLEMENTATION PLAN.—Not later than July 1, 2017, the Secretary of Defense shall submit to the Committees on Armed Services of the House of Representatives and the Senate an implementation plan for establishing the Joint Trauma Education and Training Directorate under subsection (a), entering into partnerships under subsection (c), and establishing the plan under subsection (d).

(f) LEVEL I CIVILIAN TRAUMA CENTER DEFINED.—In this section, the term “level I civilian trauma center” means a comprehensive regional resource that is a tertiary care facility central to the trauma system and is capable of providing total care for every aspect of injury from prevention through rehabilitation.

In response to Section 708 of the FY 2017 NDAA, DoD issued an interim implementation plan that addresses Sections 708(a), 708(b), and 708(c). DoD deferred Section 708(d), the personnel management plan, until a final implementation plan is provided at some later date.[8] Although not offering a section on personnel management, the interim implementation plan did identify a list of critical wartime medical specialties (p. 5): emergency medical services/prehospital care, trauma surgery, critical care, anesthesiology, emergency medicine, and other specialties deemed appropriate by the Secretary of Defense.

4. Section 749 – Oversight of Graduate Medical Education Programs of Military Departments

Section 749 of the FY 2017 NDAA established a process for oversight of GME programs.

> (a) PROCESS.—Not later than one year after the date of the enactment of this Act, the Secretary of Defense shall establish and implement a process to provide oversight of the graduate medical education programs of the military departments to ensure that such programs fully support the operational medical force readiness requirements for health care providers of the Armed Forces and the medical readiness of the Armed Forces. The process shall include the following:
>
> (1) A process to review such programs to ensure, to the extent practicable, that such programs are—
>
> (A) conducted jointly among the military departments; And
>
> (B) focused on, and related to, operational medical force readiness requirements.
>
> (2) A process to minimize duplicative programs relating to such programs among the military departments.
>
> (3) A process to ensure that—
>
> (A) assignments of faculty, support staff, and students within such programs are coordinated among the military departments; and
>
> (B) the Secretary optimizes resources by using military medical treatment facilities as training platforms when and where most appropriate.

---

[8] DoD, *Establishment of Joint Trauma Education and Training Directorate: Interim Report and Implementation Plan.*

(4) A process to review and, if necessary, restructure or realign, such programs to sustain and improve operational medical force readiness.

(b) REPORT.—Not later than 30 days after the date on which the Secretary establishes the process under subsection (a), the Secretary shall submit to the Committees on Armed Services of the Senate and the House of Representatives a report that describes such process. The report shall include a description of each graduate medical education program of the military departments, categorized by the following:

(1) Programs that provide direct support to operational medical force readiness.

(2) Programs that provide indirect support to operational medical force readiness.

(3) Academic programs that provide other medical support.

(c) COMPTROLLER GENERAL REVIEW AND REPORT.—

(1) REVIEW.—The Comptroller General of the United States shall conduct a review of the process established under subsection (a), including with respect to each process described in paragraphs (1) through (4) of such subsection.

(2) REPORT.—Not later than 180 days after the date on which the Secretary submits the report under subsection (b), the Comptroller General shall submit to the Committees on Armed Services of the Senate and the House of Representatives the review conducted under paragraph (1), including an assessment of the elements of the process established under subsection (a).

Specifically, subsection (a) required DoD to provide a report within one year of enactment, which would have been December 23, 2017. DoD delivered that report on July 13, 2018, about seven months late.[9] The language also required a report by the Government Accountability Office (GAO) within 180 days of DoD's report.

DoD's report provides additional specificity on the interactions between the MILDEPs and DHA (pp. 9–10):

> This report responds to section 749, "Oversight of GME Programs of Military Departments," by creating a plan which includes a first-ever GME Oversight Advisory Council and Tri-Service [Integration Board] to ensure that such programs fully support the operational medical force readiness requirements for health care providers and medical readiness of the Armed Forces. The GME Oversight Advisory Council will advise and assist the

[9] USD(P&R), *Report on Oversight of Graduate Medical Education Programs*.

> Director, DHA to oversee the management of GME efforts from a joint perspective, while the Tri-Service GME [Integration Board] will coordinate medical education across the MHS and provide a forum for increased communication, collaboration, and joint strategic planning for military GME. These governance committees aim to focus on operational medical force readiness requirements, while allowing the Services and DHA to review, restructure and realign processes as required. The changes to the management and administration of MHS GME program will increase jointness, minimize duplicativeness, and ensure that GME is focused on operational medical force readiness.

F. The National Defense Authorization Act for FY 2019

1. Section 712 – Organizational Framework of the Military Healthcare System to Support the Medical Requirements of the Combatant Commands

This section prescribes a role for the Director, DHA to provide sufficient workload for uniformed medical and dental personnel to maintain clinical proficiency. However, it counterbalances that role with corresponding roles for the three Surgeons General.

The following is the language pertaining to the Director, DHA:

> [Sec. 712(d)(1)] SUSTAINMENT OF CLINICAL COMPETENCIES AND STAFFING.—The Director of the Defense Health Agency shall—
>
> (A) provide in each defense health region under this section healthcare delivery venues for uniformed medical and dental personnel to obtain operational clinical competencies; and
>
> (B) coordinate with the military departments to ensure that staffing at military medical treatment facilities in each region supports readiness requirements for members of the Armed Forces and military medical personnel.
>
> [Sec. 712(d)(2)] OVERSIGHT AND ALLOCATION OF RESOURCES.—
>
> (A) IN GENERAL.—The Director [of the Defense Health Agency] shall, consistent with section 193 of title 10, United States Code [Combat support agencies: oversight], coordinate with the Chairman of the Joint Chiefs of Staff, through the Joint Staff Surgeon, to conduct oversight and direct resources to support requirements related to readiness and operational medicine support that are validated by the Joint Staff.

(B) SUPPLY AND DEMAND FOR MEDICAL SERVICES.—Based on operational medical force readiness requirements of the combatant commands validated by the Joint Staff, the Director shall—

(i) validate supply and demand requirements for medical and dental services at each military medical treatment facility;

(ii) in coordination with the Surgeons General of the Armed Forces, provide currency workload for uniformed medical and dental personnel at each such facility to maintain skills proficiency; and

(iii) if workload is insufficient to meet requirements, identify alternative training and clinical practice sites for uniformed medical and dental personnel, and establish military-civilian training partnerships, to provide such workload.

The following is the language pertaining to the three Surgeons General. Most notably,

The Surgeon General of each Armed Force shall, on behalf of the Secretary concerned, ensure that the uniformed medical and dental personnel serving in such Armed Force receive training and clinical practice opportunities necessary to ensure that such personnel are capable of meeting the operational medical force requirements of the combatant commands applicable to such personnel.

[Sec. 712(e)(1)] IN GENERAL.—The Surgeons General of the Armed Forces shall have the duties as follows:

(A) To assign uniformed medical and dental personnel of the military department concerned to military medical treatment facilities for training activities specific to such military department and for operational and training missions, during which assignment such personnel shall be under the operational control of the commander or director of the military medical treatment facility concerned, subject to the authority, direction, and control of the Director of the Defense Health Agency.

(B) To ensure the readiness for operational deployment of medical and dental personnel and deployable medical or dental teams or units of the Armed Force or Armed Forces concerned.

(C) To provide logistical support for operational deployment of medical and dental personnel and deployable medical or dental teams or units of the Armed Force or Armed Forces concerned.

(D) To oversee mobilization and demobilization in connection with the operational deployment of medical and dental personnel of the Armed Force or Armed Forces concerned.

(E) To carry out operational medical and dental force development for the military department concerned.

(F) In coordination with the Secretary concerned, to ensure that the operational medical force readiness organizations of the Armed Forces support the medical and dental readiness responsibilities of the Director.

(G) To develop operational medical capabilities required to support the warfighter, and to develop policy relating to such capabilities.

(H) To provide health professionals to serve in leadership positions across the military healthcare system.

[Sec. 712(e)(2)] MEDICAL FORCE REQUIREMENTS OF THE COMBATANT COMMANDS.—

The Surgeon General of each Armed Force shall, on behalf of the Secretary concerned, ensure that the uniformed medical and dental personnel serving in such Armed Force receive training and clinical practice opportunities necessary to ensure that such personnel are capable of meeting the operational medical force requirements of the combatant commands applicable to such personnel. Such training and practice opportunities shall be provided through programs and activities of the Defense Health Agency and by such other mechanisms as the Secretary of Defense shall designate for purposes of this paragraph.

2. Section 719 – Improvements to Trauma Center Partnerships

Section 719 amended the language enacted in Section 708 of the FY 2017 NDAA (and recounted above) regarding Joint Trauma Education. The FY 2019 NDAA amendment is indicated here via strikeouts and bolded text.

(c) PARTNERSHIPS.—

(1) IN GENERAL.—The Secretary may enter into partnerships with civilian academic medical centers and ~~large metropolitan teaching hospitals that~~

~~have level I civilian~~ trauma forward surgical teams, with maximum exposure to a high volume of patients with critical injuries.

(2) TRAUMA TEAMS.—Under the partnerships entered into ~~with civilian academic medical centers and large metropolitan teaching hospitals~~ under paragraph (1), trauma teams of the Armed Forces led by traumatologists of the Armed Forces shall embed within ~~the trauma centers of the medical centers and hospitals~~ **trauma centers** on an enduring basis.

(3) SELECTION.—The Secretary shall select civilian academic medical centers and ~~large metropolitan teaching hospitals~~ **trauma centers** to enter into partnerships under paragraph (1) based on patient volume, acuity, and other factors the Secretary determines necessary to ensure that the traumatologists of the Armed Forces and the associated clinical support teams have adequate and continuous exposure to critically injured patients.

G. Miscellaneous Authorities

Next, we discuss miscellaneous authorities related to the E&T of military medical personnel. Most of these authorities predate the establishment of DHA in 2014 and were intended for DoD broadly, although they are currently being executed in combination by DHA and the military services. Lastly, we discuss a requirement for centralized medical modeling and simulation that was triggered by a 2016 memorandum from the Joint Requirements Oversight Council (JROC).

1. 2005 Defense Base Realignment and Closure (BRAC) Commission

The 2005 round of BRAC resulted in the consolidation of several military medical activities. In the National Capital Region, for example, Walter Reed Army Medical Center (Washington, DC) and National Naval Medical Center (Bethesda, MD) were consolidated into the Walter Reed National Military Medical Center (Bethesda, MD).

Of greater significance for the current discussion, Wilford Hall USAF Medical Center (located at Lackland Air Force Base, TX) was consolidated with Brooke Army Medical Center (BAMC, located at Fort Sam Houston, TX) to create the San Antonio Regional Military Medical Center (SAMMC, located at Fort Sam Houston, TX). Further, all basic and specialty enlisted medical training that was formerly conducted at the following locations was relocated to Fort Sam Houston, TX:

- Sheppard Air Force Base, TX;
- Naval Air Station Great Lakes, IL;
- Naval Medical Center Portsmouth, VA; and
- Naval Medical Center San Diego, CA.

The following language provides the Commission's justification for consolidating those training activities:

> This recommendation also co-locates all (except Aerospace Medicine) medical basic and specialty enlisted training at Fort Sam Houston, TX, with the potential of transitioning to a joint training effort. This will result in reduced infrastructure and [reduced] excess system capacity, while capitalizing on the synergy of the co-location similar training conducted by each of the three Services. In addition, the development of a joint training center will result in standardized training for medical enlisted specialties enhancing interoperability and joint deployability.
>
> Co-location of medical enlisted training with related military clinical activities of the San Antonio Regional Medical Center at Brooke Army Medical Center, Fort Sam Houston, TX, provides synergistic opportunities to bring clinical insight into the training environment, realtime. As a result, both the healthcare delivery and training experiences are exponentially enhanced…
>
> The Commission also found that collocating all medical basic and specialty enlisted training would create an opportunity for the service branches to develop a joint training center that could result in standardized and enhanced training opportunities, as well as improved interoperability and joint deployability.[10]

2. Leadership, Education, Analysis, Development, and Sustainment (LEADS)

In 1992, the Congress funded a project to educate MTF commanders, TRICARE Regional Offices, and senior staff members on executive skills required in command positions. The Assistant Secretary of Defense (Health Affairs) developed a series of studies and a joint-Service core curriculum. That effort was concentrated in the Joint Medical Executive Skills Institute (JMESI).

JMESI was absorbed by DHA in August 2014, and was renamed LEADS in September 2017. The core responsibilities of LEADS include:

- Joint Medical Executive Skills Program,
- DHA Learning Management System (LMS), and
- Warrior Care Training and Outreach Programs.[11]

---

[10] Defense Base Closure and Realignment Commission, "Chapter 1: Joint Cross-Service Groups (JCSGs): Medical," in *Final Report to the President*, September 8, 2005, 263–4, https://www.brac.gov/docs/final/Chap1JCSGMedical.pdf.

[11] This description of LEADS is adapted from "Leadership, Education, Analysis, Development, Sustainment (LEADS)," Health.mil, https://health.mil/About-MHS/OASDHA/Defense-Health-Agency/Education-and-Training/LEADS.

Much of the focus of LEADS is on medical executive skills development through a variety of resident and distance learning course offerings. Those courses support 36 core competencies in areas such as Military Medicine, Leadership and Organizational Management, Health Law/Policy, Health Resources Allocation, Ethics in the Health Care Environment, Individual and Organizational Behavior, and Performance Measurement and Improvement.[12]

3. Recovery Coordination Program

Several issues related to the recovery of wounded warriors were raised in the NDAA for FY 2008 (Public Law 110-181). The three pertinent sections are:

- Section 1611, Comprehensive Policy on Improvements to Care, Management, and Transition of Recovering Service Members;
- Section 1614, Transition of Recovering Service Members from Care and Treatment through the Department of Defense to Care, Treatment, and Rehabilitation through the Department of Veterans Affairs; and
- Section 1648, Standards for Military Treatment Facilities, Specialty Medical Care Facilities, and Military Quarters Housing Patients and Annual Report on Such Facilities.

In response to those sections of law, DoD issued Directive 1300.24, "Recovery Coordination Program (RCP)."[13] The directive

> Establishes policy, assigns responsibilities, and prescribes uniform guidelines, procedures, and standards for improvements to the care, management, and transition of recovering Service members (RSMs) across the Military Departments.

Education and training issues for medical personnel involved in the recovery process for wounded warriors are referenced at three points in the directive:

> The [Under Secretary of Defense (Personnel and Readiness)] shall … oversee the development of core training conducted by the [Office of Wounded Warrior Care and Transition Policy] for the Military Department recovery care coordinators (p. 7) …
>
> The [Assistant Secretary of Defense (Health Affairs)] … shall establish uniform professional qualifications, including education and training, for [medical care case managers] identified to become members of the [recovering Service members] recovery team (p. 7) …

---

[12] DHA/J7/LEADS Division Mission Brief, 2018.

[13] DoD Directive 1300.24, "Recovery Coordination Program (RCP)," December 1, 2009.

> Recovery team members shall … complete Military Department-specific training prior to independently assuming the duties of their positions, and comply with continuing education requirements (p. 11).

4. Medical Readiness Training

The Joint Medical Readiness Training Center (JMRTC) was formed in 1986 and provided training to numerous medical officers, including the Combat Casualty Care Course. In 1996, JMRTC expanded in scope and mission to become the Defense Medical Readiness Training Institute (DMRTI). That new organization operated under the direction and guidance of the Deputy Assistant Secretary of Defense for Health Affairs/Force Health Protection and Readiness (DASD(HA)FHP&R). By administrative action without congressional impetus, DMRTI was transferred to DHA's Education and Training Directorate (J7) in 2014.

DMRTI is located at Joint Base San Antonio, Fort Sam Houston, TX, and offers joint medical readiness training courses to both residents and non-residents, as well as professional medical programs. DMRTI offers courses in:

- Trauma care,
- Burn care,
- Joint medical operations,
- Disaster preparedness,
- Humanitarian assistance, and
- Chemical/biological/radiological/nuclear/explosive (CBRNE) preparation and response.[14]

5. Medical Modeling and Simulation

In May 2016, the JROC issued a memorandum entitled "Joint Medical Modeling and Simulation Requirements Management DOTMLPF-P Change Recommendation."[15] In response to that memorandum, the Under Secretary of Defense (Personnel and Readiness) issued DoD Instruction 6000.18, "Medical Modeling and Simulation (MM&S)

---

[14] This description of DMRTI is adapted from "Defense Medical Readiness Training Institute," Health.mil, https://health.mil/About-MHS/OASDHA/Defense-Health-Agency/Education-and-Training/Defense-Medical-Readiness-Training-Institute.

[15] Department of Defense, Joint Requirements Oversight Council, "Joint Medical Modeling and Simulation Requirements Management DOTMLPF-P Change Recommendation," Memorandum 034-16, May 19, 2016. DOTMLPF-P stands for Doctrine, Organization, Training, Materiel, Leadership, Personnel, Facilities, and Policy.

Requirements Management."[16] The instruction begins by stating an intent to centralize MM&S:

> 1.2. POLICY. It is DoD policy that MM&S requirements management will be centralized, coordinated, and consolidated to:
>
> a. Support MHS planning, decision-making, test and evaluation, and education and training.
>
> b. Eliminate unnecessary duplication of costs.
>
> c. More effectively determine and produce the MHS [military health system] mission requirements needing standardized MM&S solutions and systems.

The instruction then goes on to assign roles and responsibilities to the following offices:

- Under Secretary of Defense (Personnel and Readiness);
- Assistant Secretary of Defense (Health Affairs);
- Deputy Assistant Secretary of Defense for Health Readiness Policy and Oversight;
- Director, DHA;
- President, USUHS;
- Under Secretary of Defense (Acquisition and Sustainment);
- DoD Chief Information Officer;
- Secretaries of the Military Departments;
- Chairman, Joint Chiefs of Staff; and
- Combatant Commanders.

Significantly, however, Instruction 6000.18 established two entities under DHA. First, the Defense Medical Modeling and Simulation Office (DMMSO) was established as follows:

> The central MM&S office is the entry point for the MHS enterprise for MM&S requirements submission to capture, track, and determine MHS equities, and approve proposed MM&S requirements. It provides the overarching organized and coordinated capability for MM&S requirements and enterprise level oversight. The DMMSO assists Service SMEs [subject matter experts] with the development of MM&S capability requirements documents, provides guidance through Joint Capabilities Integration and Development System processes, manages the MM&SRM [Medical

[16] DoD Instruction 6000.18, "Medical Modeling and Simulation Requirements Management," August 22, 2018.

> Modeling and Simulation Requirements Management] system for MHS enterprise approval of the requirements, and tracks, assesses, stores, and resources, as appropriate, subsequent implementation activities of selected, consistent requirement solutions. (p. 9)

Second, the Medical Modeling and Simulation Requirements Management System was established as:

> A system that identifies, captures, inventories, validates, develops, and maintains baseline capability requirements of MHS equities. The system identifies gaps, approved solutions, and inventories. The system develops and guides MHS requirement documents through the Joint Capabilities Integration and Development System process, including Service-specific requirements, and subsequent implementation of solution set activities, for a DoD MM&S capability. (p. 10)

Appendix B.
Civilian Education Programs

A. Scholarship and Loan Repayment Programs

Each Service runs several officer scholarship/loan repayment programs for healthcare professionals. These programs serve as important recruitment and retention tools. They include the Health Professions Scholarship Program (HPSP), the Financial Assistance Program (FAP), the Nurse Candidate Program (NCP), and the Health Professions Loan Repayment Program (HPLRP). Participants in these programs receive their medical education in the civilian sector—typically before entering military service, but not always.[1] While the programs offer essentially the same benefits, they are run independently by each Service. Table B-1 shows the number of total participants enrolled in each program.[2] The number of entrants and graduates for 2017 is also included. The following page provides a short description of each program.

[1] The majority of applicants to programs such as HPSP are new to the military. However, enlisted personnel and officers currently working in different occupations also apply to these programs. In addition, some programs, such as the nurse enlisted commissioning program, are targeted to enlisted personnel wishing to complete further medical training.

[2] The data were not specialty-specific (e.g., nurse, physician, dentist), so we were unable to impute instruction-days.

Table B-1. Student Volume in Civilian Education Programs

	Army	Navy	Air Force	Total
HPSP				
Total Participants	**1,570**	**1,267**	**1,470**	**4,307**
Entrants	441	338	409	1,188
Graduates	458	342	402	1,202
FAP				
Total Participants	**15**	**31**	**41**	**87**
Entrants	3	11	17	31
Graduates	4	12	17	33
NCP				
Total Participants		**85**	**67**	**152**
Entrants		75	35	110
Graduates		76	32	108
HPLRP				
Total Participants	**525**	**22**	**323**	**870**
Entrants	383	16	0	399
Graduates	273	13	0	286
Total Student Participants	**2,110**	**1,405**	**1,901**	**5,416**

Note: Most programs are multiple-year (entrants and graduates will not sum to total participants).

The HPSP is the largest accession program. It provides tuition and expenses, a monthly stipend, and a signing bonus in exchange for a service obligation. The educational programs covered by HPSP include medical school, dental school, veterinarian school, optometry school, and certain nurse and other clinical specialists (e.g., nurse anesthetist, clinical psychologist).

The FAP is a physician accession program targeted to medical residents in civilian programs. Residents receive an annual grant, monthly stipend, and reimbursement for educational expenses in exchange for a service commitment. The service commitment is two years for the first year in the program and then year-for-year after that.

The NCP provides a monthly stipend for full-time students in accredited Bachelor of Science nursing programs in exchange for a service obligation. The Services also run nurse enlisted commissioning programs, which target enlisted personnel wishing to earn a nursing degree. Nurses are also recruited through the Reserve Officers' Training Corps.

Lastly, the HPLRP provides up to $120K for Active Duty soldiers (or $50K for Reservists) to pay down qualifying education loans. Active Duty participants receive $40K

per year for three years, while Reservists can receive $20K per year for the first two years and $10K for the third year.[3]

B. Civilian Graduate Medical Education

While the majority of military physicians complete their Graduate Medical Education (GME) (residency training) in military hospitals, some complete their residency training in civilian facilities. There are two general types of civilian GME programs:

- Civilian Sponsored: students attend a civilian residency program while remaining on Active Duty and receiving Active Duty pay and benefits
- Civilian Deferred: students attend a civilian residency program on a non-active status and are paid as civilians by the program they attend

The IDA team was able to obtain out-service GME data for the Air Force and Navy, shown in Table B-2. We found that, by instruction-days, approximately 25 percent of Navy residents and fellows attend civilian programs. The Air Force, by instruction-days, now sends just over 60 percent of its residents and fellows to civilian programs.

Table B-2. Out-Service vs. MHS GME Program Participation

	Student Count	Pct.	Instruction-Days	Pct.
Navy Out-service	213	23%	294,555	25%
Navy MTF-Based	727	77%	886,440	75%
Navy Total	**940**	**100%**	**1,180,995**	**100%**
Air Force Out-service	541	58%	739,429	61%
Air Force MTF-Based	391	42%	464,580	39%
Air Force Total	**932**	**100%**	**1,204,009**	**100%**

Note: The IDA team did not receive out-service GME data from Army.

Table B-3 and Table B-4 provide further detail on the number of students currently attending civilian residency programs and fellowships by specialty.

[3] "Army Medicine, AMEDD Benefits," U.S. Army, https://www.goarmy.com/amedd/health-care/benefits.html.

Table B-3. Civilian Out-Service Residency Participation

Specialty	Student Count	Training Length (Years)
Anesthesiology	82	4
Dermatology	5	4
Emergency Medicine	84	3
Family Medicine	66	3
General Surgery	129	5
Internal Medicine	16	3
Neurology	8	4
Neurosurgery	23	7
Obstetrics-Gynecology	43	3
Occupational Medicine	9	2
Ophthalmology	3	4
Otolaryngology	10	5
Pathology	13	4
Pediatrics	47	3
Preventive Medicine	6	2
Psychiatry	17	3
Radiation Oncology	4	5
Radiology	1	5
Transitional Year	13	1
Urology	16	5
Diagnostic Radiology	25	5
Genetics	1	4
Orthopedics	51	5
Total	**672**	

Note: Only Air Force and Navy out-service programs are captured in our data.

Table B-4. Civilian Out-Service Fellowships

Specialty	Student Count	Training Length (Years)
Aerospace Medicine	1	1
Anesthesiology	9	1
Clinical Informatics	2	2
Dermatology	1	1
Emergency Medicine	6	2
Family Medicine	4	1
General Surgery	17	2
Internal Medicine	5	2
Neurology	4	1
Neurosurgery	2	1
Obstetrics-Gynecology	3	3
Ophthalmology	1	2
Otolaryngology	2	1
Pathology	6	1
Radiology	2	1
Urology	3	2
Diagnostic Radiology	2	1
Healthcare Administration	1	2
Orthopedics	11	1
Grand Total	**82**	

Note: Only Air Force and Navy out-service programs are captured in our data.

Appendix C.
MHS GME and GDE

Graduate medical education (GME) and graduate dental education (GDE) are some of the longest, most complex forms of medical education and training (E&T) offered across the enterprise. For GME, there are over 20 different specialties, with even more subspecialties. Table C-1 lists each specialty, the number of residents participating in the specialty through Military Health System (MHS) programs, and the typical training period. Civilian out-service GME programs are listed in Appendix B.

Table C-1. MHS GME Programs

Specialty	Student Count	Training Length (Years)
Aerospace Medicine	71	2
Anesthesiology	113	3
Dermatology	52	3
Emergency Medicine	223	3
Family Medicine	424	3
General Surgery	287	5
Internal Medicine	409	3
Neurology	32	3
Neurosurgery	7	7
Obstetrics-Gynecology	141	4
Occupational Medicine	9	2
Ophthalmology	45	3
Otolaryngology	72	5
Pathology	54	4
Pediatrics	197	3
Physical Medicine and Rehabilitation	15	3
Preventive Medicine	17	2
Psychiatry	159	4
Radiation Oncology	6	2
Radiology	143	4
Transitional Year	132	1
Urology	31	4
Orthopedics	168	5
Grand Total	**2807**	

MHS GDE programs are generally one to three years long. Table C-2 provides data on GDE specialties, the number of students in each specialty, and the training length.

Table C-2. MHS Graduate Dental Education

Specialty	Student Count	Training Length (Years)
Advanced Education in General Dentistry	74	1
Comprehensive Dentistry	75	2
Endodontics	33	2
Oral and Maxillofacial Pathology	3	3
Orofacial Pain	3	3
Orthodontics (Tri-Service)	12	2
Periodontics	32	3
Prosthodontics	34	3
Grand Total	**266**	

Appendix D.
Accreditation Discussion

A. Accreditation Background

In the United States, the federal government relies on private educational associations (or accrediting agencies) to conduct the accreditation process. The US Department of Education (ED) and the Council for Higher Education Accreditation (CHEA), a professional organization, both scrutinize accrediting agencies and determine whether they are reliable authorities on education quality.[1] Today there are three general types of accrediting agencies:

- **Regional Accrediting Agencies:** There are currently seven accrediting agencies operating in six regions of the United States. Regional Accrediting Agencies focus their attention on reviewing colleges and universities (Institutions of Higher Education). Accreditation from these agencies is "institutional" or granted to the entire institution. It does not guarantee the quality of individual programs.
- **National Accrediting Agencies:** There are at least 15 national accrediting agencies operating across the country. They review and provide institutional accreditation to institutions with a common theme, including faith-based or private career.
- **Programmatic Accrediting Agencies:** These agencies also operate nationally and focus on single-purpose institutions or programs. In many instances, particular schools or departments (e.g., school of medicine, school of law) are accredited by programmatic accrediting agencies, while the larger institution is accredited by a regional or national organization. Programmatic accreditation demonstrates that a specific department meets established standards within a certain field (e.g., medicine or nursing). Employers often require graduation from a program accredited by specific programmatic agencies.

The Uniformed Services University (USU), military academies, and military staff colleges each maintain an institutional accreditation from a regional or national accrediting

[1] Alexandra Hegji, "An Overview of Accreditation of Higher Education in the United States," R43826 (Washington, DC: Congressional Research Service, updated March 2017), https://fas.org/sgp/crs/misc/R43826.pdf.

agency. Some also maintain multiple programmatic accreditations. For instance, USU has over 20 total programmatic accreditations.

B. Addendum on USU Alignment to Either ASD(HA) or DHA

1. Summary

The Department of the Navy was the lead agent for USU until, in November 2006, Deputy Secretary of Defense Gordon England transferred control of USU to the TRICARE Management Activity (TMA). Beginning in 2003, the Director, TMA was "double-hatted" as the Assistant Secretary of Defense for Health Affairs (ASD(HA)), but with the establishment of the Defense Health Agency (DHA) in October 2013, virtually all of TMA's functions were spun off to DHA under the inaugural leadership of Lt. Gen. Douglas Robb.

A contentious issue during 2013 was whether control of USU would remain under the ASD(HA) or would follow TMA and instead fall under DHA. Ms. Jessica Wright was the Acting Under Secretary of Defense (Personnel and Readiness) at that time,[2] to whom ASD(HA) and eventually DHA reported. During the spring of 2013, Ms. Wright presented two options to then-Deputy Secretary of Defense Ashton Carter:

- *Option 1*: Align USU as an organizational entity reporting directly to ASD(HA);
- *Option 2*: Align USU as an organizational component of DHA. For matters of policy direction, program oversight, academic affairs, and accreditation, the President, USUHS has direct access to and receives direction from the ASD(HA).

Under Secretary Wright argued in favor of Option 1, and in June 2013 Secretary Carter accepted that recommendation.

One of the most controversial elements of that decision revolved around how USU's accreditation authorities would react. Some parties in the Pentagon worried that the Middle States Commission on Higher Education (MSCHE) would react adversely to the additional layer of oversight imposed by Option 2: the President, USU would no longer report *directly* to the ASD(HA), but rather to the ASD(HA) *through* the Director, DHA. When arguing in favor of Option 1, the ASD(HA) himself (Dr. Jonathan Woodson) opined that Option 2 would:

---

[2] Jessica Wright was confirmed as the Assistant Secretary of Defense (Reserve Affairs) on May 24, 2012. She began serving as the Acting Under Secretary of Defense (Personnel and Readiness) on January 1, 2013, after the departure of Erin Conaton. Ms. Wright was finally confirmed by the Senate as the Under Secretary on June 25, 2014.

> [subordinate] USUHS to the DHA, [increasing] the layers of oversight without distinct advantage … [and] create a dual reporting requirement for the USU President that violates unity of authority, direction, and control and creates an additional organization level not imposed on any of the Service Academies or Service War Colleges.[3]

2. Detailed History

In November 2006, Deputy Secretary of Defense Gordon England signed a memorandum that terminated the Department of the Navy's role as lead agent for USU, instead transferring USU to the control of TMA. The rationale of that action was "to foster increased operational oversight and ensure integration of USUHS programs and activities in the Defense Health Program."[4]

TMA, in turn, had been established on February 10, 1998 as a field activity reporting to the ASD(HA). TMA was created to comply with Secretary of Defense William Cohen's Defense Reform Initiative, which required certain DoD offices to separate their operations and support elements from their policy-making functions.[5] The policy-makers (42 military and civilian positions) remained in the ASD(HA) immediate office, while operations and support (more than 300 positions) moved to the new TMA. Although the Director, TMA was initially a different individual from the ASD(HA), in 2003 the two jobs were combined and the incumbent became "double-hatted."[6] For example, Dr. Jonathan Woodson served as both ASD(HA) and Director, TMA until TMA was rolled over into DHA during 2013.[7]

---

3 Office of the Assistant Secretary of Defense (Health Affairs), "Memorandum for Director of Administration and Management: Organizational Alignment of Uniformed Services University of the Health Sciences," Memorandum, April 25, 2013.

4 Deputy Secretary of Defense, "Transfer of Uniformed Services University of the Health Sciences to TRICARE Management Activity and Rescission of the Department of the Navy as Department of Defense Executive Agent," Memorandum, November 29, 2006.

5 Douglas J. Gillert, "TRICARE Management Activity Launched," *DoD News: American Forces Press Service*, February 11, 1998, http://archive.defense.gov/news/newsarticle.aspx?id=41254.

6 Under Secretary of Defense (Personnel and Readiness), *A Report to Congress on the Organizational Structure of the Office of the Assistant Secretary of Defense for Health Affairs and the TRICARE Management Activity*, 2011.

7 Military Health System Communications Office, Defense Health Headquarters, "Woodson closes Out Time as Leader of Military Health System, Formally Recognizes TMA Contribution," Air Force Medical Service, May 2, 2016, https://www.airforcemedicine.af.mil/News/Article/747135/.

On September 30, 2013, DoD issued Directive 5136.13, which established DHA, disestablished TMA, and transferred virtually all former TMA functions to DHA.[8] According to that document, the Director, DHA:

> is recommended by and reports to the ASD(HA). Unless otherwise determined by the Secretary of Defense, the Director, DHA, is appointed in accordance with section 601 of [Title 10, U.S. Code] as a general or flag officer in the grade of Lieutenant General or Vice Admiral and published on the Joint Duty Assignment List (JDAL) in accordance with DoD Instruction (DoDI) 1300.19 [DoD Joint Officer Management Program].

There was considerable controversy within the Pentagon as to whether the oversight of USU would transition to DHA along with most other TMA functions, or whether instead USU would bypass the DHA layer and report directly to the ASD(HA). Acting Under Secretary of Defense (Personnel and Readiness) Jessica Wright [to whom ASD(HA) and eventually DHA reported] weighed in on this issue during 2013. During March 2013, Ms. Wright wrote a memorandum to Ashton Carter, then-Deputy Secretary of Defense, encouraging Dr. Carter to position USU under the direct control of ASD(HA):

> After reviewing the [DoD Director of Administration and Management] comments and the USUHS response, I remain convinced that aligning the University as an entity reporting to the ASD (HA) remains the best course of action. This alignment preserves unity of command and eliminates a cause of concern among the University's accrediting bodies. Further, this decision does not create duplication or increased cost to the Department. As the Department's only medical university, USU has a significant role in providing advanced medical professionals to the Services. USU contributes 10% of the medical corps officers to the Services each year; however, its graduates comprise 25% of the serving medical corps due to increased retention. Furthermore, USU graduates comprise a third of all leadership positions in the [Military Health System], and half of all Nurse Anesthetists are USU graduates. Option 2 [i.e., USUHS reporting to OSD (HA) through DHA] places these critical accession sources at risk to accreditation failure.

Ms. Wright followed up with a formal decision package to Secretary Carter on May 1, 2013. On June 23, 2013, Secretary Carter accepted Ms. Wright's recommendation and approved Option 1, which bypassed DHA and positioned USU under the direct control of the ASD(HA). The final decision to implement Option 1 is reflected in DoD Directive 5105.45, issued December 26, 2013, which states "USUHS as an organizational entity reporting to the Assistant Secretary of Defense for Health Affairs (ASD(HA))."[9]

---

[8] DoD Directive 5136.13, "Defense Health Agency (DHA)," September 30, 2013.

[9] DoD Instruction 5105.45, "Uniformed Services University of the Health Sciences (USUHS)," December 26, 2013.

Ms. Wright made several key arguments in favor of Option 1.

> [1] Statutorily, USUHS is governed by its own chapter in title 10, U.S.C. (chapter 104 [Uniformed Services University of the Health Sciences]), which is independent of the sections of law authorizing Defense Agencies and Field Activities. Therefore, USUHS can be recognized as a Department of Defense (DoD) entity, independent of a Military Department, Defense Agency, or Field Activity, without increasing the number of Agencies or Activities.
>
> [2] In order to provide a credential that supports licensure of health care professionals, it is essential that USUHS maintain its Middle States Commission on Higher Education accreditation. A 1991 Congressional action changed the USUHS Board of Regents from a government board to an advisory committee to the Secretary of Defense. This change created a serious and ongoing accreditation concern for the Commission: the independence of USUHS governance. The Commission recognizes that title 10 U.S.C. section 2113 specifies that the "business of the University shall be conducted by the Secretary of Defense," and has been reassured by the preeminent relationship between the USUHS President and the ASD(HA). In the absence of dual-hatting, this reassurance is best preserved by the alignment of USUHS as an organizational entity reporting to the ASD(HA). This alignment is consistent with the organizational treatment of the Service Academies and the Service War colleges.

The cited 10 U.S. Code Section 2113 (Administration of [Uniformed Services] University [of the Health Sciences]) does contain the language "(a) The business of the University shall be conducted by the Secretary of Defense with funds appropriated for and provided by the Department of Defense." Among other matters, the section also defines the scope of USU's programs:

> (e) The Secretary of Defense may establish the following educational programs at the University:
>
> (1) Postdoctoral, postgraduate, and technological institutes.
>
> (2) A graduate school of nursing.
>
> (3) Other schools or programs, including certificate, certification, and undergraduate degree programs, that the Secretary determines necessary in order to operate the University in a cost-effective manner.
>
> (f) The Secretary shall also establish programs in continuing medical education for military members of the health professions to the end that high standards of health care may be maintained within the military medical services.

In a pro/con section of Ms. Wright's decision package to Secretary Carter, she argued that Option 1 (Align USU as an organizational entity reporting directly to ASD(HA)) would:

- Provide clear and direct reporting of USU to ASD(HA), preserving the relationship recognized by accrediting authorities; and
- Preserve the Board of Regents' direct access to the ASD(HA) and the Secretary of Defense.

Conversely, Option 2 (Align USU as an organizational component of DHA. For matters of policy, direction, program oversight, and academic affairs, the President, USU has direct access to and receives guidance from the ASD(HA)) would:

- Fundamentally change the relationship between the USU President and the ASD(HA), which the Middle States Commission and other accrediting authorities will view negatively; and
- Remove financial, contracting, and personnel decisions from the direct control of the USU President, lessening academic focus and independence, and jeopardizing accreditation.

Interestingly for the current project, Ms. Wright's decision package listed as a "con" that Option 2:

- "Does not achieve the consolidation envisioned in the Deputy Secretary of Defense's March 2, 2012 memorandum [Planning for Reform of the Governance of the Military Health System], unless USUHS is aligned under the functional lead of the Medical Education and Training Shared Service Directorate, creating even further organizational distance from the ASD(HA), as well as academic independence and accreditation concerns."

Much the same argument is currently at play: Would placing USU under DHA satisfy the mandate for consolidation, no longer with respect to a 2012 memorandum but, rather, with respect to Section 711 of the FY 2019 NDAA? An additional wrinkle, foreshadowed in Ms. Wright's decision package, is the relationship that USU—if placed under DHA—would have with DHA's current Deputy Assistant Director, Education and Training (J7), whose duties include:

- Lead a standardized, high-value E&T [program] across the Military Health System;
- Implement an enterprise-wide learning system maximizing education resources;
- Establish an enterprise-wide eLearning tool that meets the requirements of each Service to better coordinate medical education services and resources;

- Consolidate and streamline administrative and oversight functions for medical E&T programs, initiatives, and schools;
- Coordinate professional development and sustainment programs; and
- Facilitate a centralized training review process to ensure medical E&T is coordinated across the MHS.[10]

When Secretary Carter approved Option 1 on June 23, 2013, it was over the objection of Michael Rhodes, DoD's Director of Administration and Management.[11] Secretary England's 2006 memorandum directed that "USUHS shall be realigned to an operating entity under the TRICARE Management Activity (TMA), with the President of the USUHS reporting to the Director, TMA."[12] Mr. Rhodes noted in his objection that the quotation indicates an apparent preference that USUHS report to the Director, TMA rather than to the bureaucratically superior ASD(HA), even though the same individual (Dr. William Winkenwerder, Jr.) was already occupying both positions in 2006. (Dr. Jonathan Woodson was occupying both positions during the 2013 decision process, until DHA was spun off in October 2013 under the leadership of Lt. Gen. Douglas Robb.) In the current context, with DHA having replaced TMA later in 2013, it could be argued that a faithful implementation of Secretary England's original intent would have been for USUHS to report to DHA as TMA's successor organization.

Among his responses to Mr. Rhodes, ASD(HA) Woodson expressed some concerns about USU's accreditation that would find their way into the decision package that Under Secretary Wright sent to Deputy Secretary Carter on May 1, 2013:

> The Board of Regents advises [the Secretary of Defense] through the [Under Secretary of Defense (Personnel and Readiness)]. The Board has expressed concern about organizational changes that would subordinate USUHS within the DHA organization. In its March 2013 Middle States Commission on Higher Education accreditation visit, the survey team expressed serious concern over the Standard for Leadership & Governance. This standard (Standard for Leadership & Governance, Standard 4) required that the "institution's governing body possess sufficient autonomy to assure institutional integrity and to fulfill its responsibilities of policy and resource development, consistent with the mission of the institution." Subordinating

---

[10] "Education and Training (J7)," Health.mil, https://health.mil/About-MHS/OASDHA/Defense-Health-Agency/Education-and-Training.

[11] Starting in March 2010 and through the duration of the 2013 decision process, Mr. Rhodes was double-hatted as Director of Administration and Management and Director of Washington Headquarters Services (WHS).

[12] Deputy Secretary of Defense, "Transfer of Uniformed Services University of the Health Sciences to TRICARE Management Activity."

> USUHS to the DHA increases the layers of oversight without distinct advantage." …
>
> The President of USU and Board of Regents, which includes the Surgeons General, believe this option [Align USUHS as an organizational component of the DHA. For matters of policy direction, program oversight, academic affairs, and accreditation, the President, USUHS has direct access to and receives direction from the ASD(HA)] will result in a failure to meet the Middle States Commission on Higher Education's Leadership and Governance Standard 4 and will result in an adverse accreditation action. This option creates a dual reporting requirement for the USU President that violates unity of authority, direction, and control and creates an additional organization level not imposed on any of the Service Academies or Service War Colleges.[13]

3. Prospective Accreditation Concerns

The MSCHE publishes a summary of its accreditation criteria. Of particular salience is Standard VII: Governance, Leadership, and Administration. Current USU leadership has expressed concerns that the University might not be able to satisfy some aspects of Standard VII if USU were aligned with DHA rather than directly with ASD(HA). We state for the record the relevant portions of MSCHE's Standard VII, along with USU's commentary and possible counterarguments.[14]

MSCHE Standard VII: (Preamble) The institution is governed and administered in a manner that allows it to realize its stated mission and goals in a way that effectively benefits the institution, its students, and the other constituencies it serves. Even when supported by or affiliated with governmental, corporate, religious, educational system, or other unaccredited organizations, the institution has education as its primary purpose, and it operates as an academic institution with appropriate autonomy.

USUHS concern: "A realignment of USU under DHA – a designated Combat Support Agency – will dilute the University's exclusive focus on education as additional non-educational tasks emerge from a higher headquarters."

Possible counterargument: ASD(HA) also has responsibilities for combat support activities; therefore, aligning USUHS under ASD(HA) rather than under DHA would not eliminate the issue of **multiple missions for the oversight organization**. According to DoD Directive 5136.01, which describes the roles of ASD(HA):

---

[13] Office of the Assistant Secretary of Defense (Health Affairs), "Memorandum for Director of Administration and Management."

[14] "Standards for Accreditation and Requirements of Affiliation," Middle States Commission on Higher Education, https://www.msche.org/standards/; and USUHS, "Position Paper: Reporting Structure for Uniformed Services University of the Health Sciences," 2019.

> The ASD(HA) ensures the effective execution of the DoD medical mission, providing and maintaining readiness for medical services and support to members of the Military Services, including during military operations …
>
> Serves as the principal advisor to the Secretary of Defense and USD(P&R) on deployment matters as they pertain to force health protection and readiness in the DoD, including the medical aspects of global health engagement, health policy, medical readiness, and medical research and development. Develops policies and provides oversight for new or improved force health protection initiatives and supports the investigation, information exchange, measurement, reporting, and archiving of pertinent health-related information on past, present, or potential military deployments ...
>
> Develops policies and procedures and oversees implementation and execution of programs to support wounded, ill, and injured Service members and their families. Ensures programs and policies meet the evolving and longitudinal care and transition needs of the wounded, ill, and injured and are coordinated among other Executive branch departments, including the Department of Veterans Affairs.[15]

MSCHE Standard VII: the University must have (paragraph 2b) "sufficient independence and expertise to ensure the integrity of the institution" and must have a (paragraph 3c) "Chief Executive Officer who has the authority and autonomy required to fulfill the responsibilities of the position, including developing and implementing institutional plans, staffing the organization, identifying and allocating resources, and directing the institution toward attaining the goals and objectives set forth in its mission."

USUHS concern: "The realignment of USU under DHA violates the spirit of this standard as USU would become one of multiple organizational elements under DHA and subject to competition with non-educational requirements that could adversely affect the autonomy and independence of the President of USU."

A particular concern is, as set forth in Standard VII, the "Chief Executive Officer['s] … authority and autonomy … [in] identifying and allocating resources ..." USU's position is that "Were USU to be aligned under DHA, the DHA director would be required to adjudicate more resource requirements between and among the University and a vast array of competing demands. Moreover, the USU budget might be more vulnerable to unanticipated resource reallocations internal to DHA throughout any given academic year, seriously jeopardizing the continuity of ongoing USU educational and research programs."

Possible counterargument: ASD(HA) also has responsibilities for allocating its budget among diverse activities; therefore, aligning USUHS under ASD(HA) rather than

---

[15] DoD Directive 5136.01, "Assistant Secretary of Defense for Health Affairs (ASD(HA))," August 10, 2017.

under DHA would not eliminate the issue of **competition for resources within the oversight organization**. According to DoD Directive 5136.01:

> ASD(HA) exercises authority, direction, and control over the DoD medical and dental personnel authorizations and policy, facilities, programs, funding, and other resources in the DoD …
>
> Serves as resource manager for all DoD health and medical financial and other resources and:
>
> > (a) Prepares and submits, in the DoD Planning, Programming, Budgeting, and Execution (PPBE) process, a DoD Unified Medical Program budget to provide resources for the DoD MHS. Consistent with applicable law, accounts for all funding for the DoD MHS, including operations and maintenance; procurement; and research, development, test, and evaluation in the single Defense Health Program (DHP) appropriations account, but keeps funds for medical facility military construction in a separate single appropriations account.
> >
> > (b) Presents and justifies the DoD Unified Medical Program budget throughout the PPBE process, including representations before Congress.[16]

C. Alternative Options that Preserve USU alignment to ASD(HA)

Figure D-1 and Figure D-2 provide options that parallel the three models presented in Chapter 5 with one main difference. In these models, the president of USU would maintain a direct reporting relationship to OASD(HA) for any matters relating to USU and its current academic mission. As head of the DHA ETO, the president would report to Director, DHA for matters relating to the sustainment and professional development training missions carried out by the Defense Medical Training Consortium, the Defense Medical War College, or the School of Operational Medicine in Courses of Action 1 through 3, respectively.

[16] Ibid.

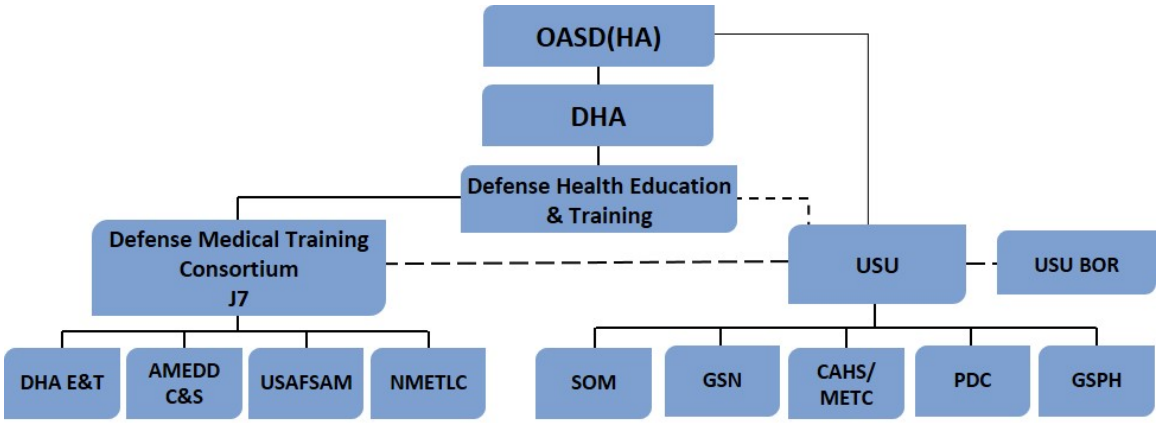


Figure D-1. Consortium Model, Alternative Reporting Structure

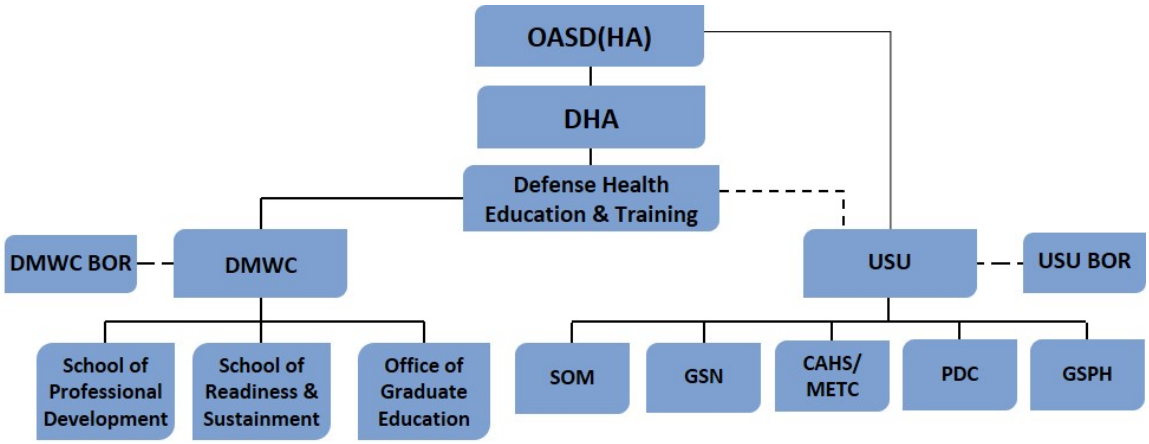


Figure D-2. Defense Medical War College, Alternative Reporting Structure

Appendix E.
Cost Savings Analysis

A. Overhead Description and Calculations

Using budget data from the individual Education and Training (E&T) components, the Institute for Defense Analyses (IDA) team analyzed each institution's cost structure to better understand their direct instruction and overhead costs. We restricted budget data exclusively to Military Personnel (MILPERS) and Operation and Maintenance (O&M) costs. Some component budgets, primarily the Uniformed Services University (USU), contain significant sums of other dollars (i.e., Research, Development, Test and Evaluation (RDT&E); Guidance for the Development of the Force (GDF); etc.). We restrict our analysis to MILPERS and O&M costs to permit fair comparisons across components.

Overhead costs comprised two general categories: personnel costs and O&M costs. Using personnel rosters that included job title, division/department, and pay grade, we were able to separate out overhead personnel costs for each component. Job titles that related directly to instruction were not considered overhead (e.g., instructor, professor, clinical trainer). All other job titles were considered overhead (e.g., academic dean, academic support staff, IT tech). Composite rates were used to cost military personnel, while civilian personnel costs were calculated by multiplying the proportion of the number of civilian overhead personnel relative to the total number of civilian personnel by the total Civilian Personnel (CIVPERS) costs from O&M budgets. Note that this may lead to a small measurement bias when costing civilian overhead. With respect to O&M costs, any budget items that directly relate to instruction were not considered overhead (e.g., instructor salaries, instruction supplies, consumables), whereas costs that did not were considered overhead (e.g., facility costs, IT systems, administration costs). The identification of these costs depended greatly upon the fidelity and granularity of the data provided by the components. The data quality ranged from very specific data provided by USU to very general data provided by the Air Force. As the Air Force's data lacked the sufficient specificity, we imputed its overhead rate as the average of the Army and the Navy rates.

Using the overhead costs described above, IDA calculated overhead rates for each component. Overhead rates are defined as the proportion of a component's overhead costs relative to the component's total cost. Component overhead rates are summarized in Table E-1.

Table E-1. Component Overhead Rates ($000s)

	Army	Navy	Air Force	DHA – LEADS & DMRTI	DHA – METC	DHA J7 – HQ	USU
O&M	$58,405	$35,957	N/A	$2,554	$20,500	$9,865	$130,991
MILPERS	$50,182	$9,051	N/A	$2,814	$3,017	$3,598	$20,826
CIVPERS	$47,009	-	N/A	$1,467	$5,674	$1,646	-
Total	$155,595	$45,008	N/A	$6,835	$29,190	$15,109	$151,817
Total Component Cost	$282,871	$113,081	$64,805	$17,036	$51,948	$15,109	$238,321
Overhead Rate	0.5501	0.3980	0.4740	0.4012	0.5619	1.0000	0.6370

Note: Navy did not provide a detailed personnel roster for all subcomponents of Navy Medicine Education, Training, & Logistics Command (NMETLC). As such, their overhead rates (and costs) are likely an underestimate of the true cost. Air Force did not provide a sufficiently detailed budget. As such, its overhead rate was imputed as the average of Army and Navy.

DHA – Defense Health Agency; DMRTI – Defense Medical Readiness Training Institute; LEADS – Leadership, Education, Analysis, Development and Sustainment Division; METC - Medical Education and Training Campus.

Indirect rates (sometimes referred to as facilities and administration rates) are intended to reimburse civilian universities or institutions for the support costs and infrastructure associated with sponsored research. While geared towards research, indirect rates are the best approximation of overhead rates. Indirect rates can vary widely (20 to 85 percent among US universities), with rates as high as 103 percent for non-profit institutions.[1] Work has shown that these rates have held constant over recent years among academic institutions.[2] Collectively, this suggests that overhead within the military medical E&T enterprise is in line with peer institutions and that large fluctuations in overhead costs are unlikely.

B. Instruction-Days by Component

Table E-2 illustrates how instruction-days are realigned from components under each of the three reform models relative to the status quo. The first column shows instruction-days for each of the current five components. The total excludes Graduate Medical Education, Graduate Dental Education, and Graduate Health Education, as these programs

1 Heidi Ledford, "Indirect Costs: Keeping the Lights On," *Nature* 515, no. 7527 (December 23, 2014): 326–9, https://www.nature.com/news/indirect-costs-keeping-the-lights-on-1.16376.

2 "Frequently Asked Questions about Facilities and Administrative (F&A) Costs of Federally Sponsored University Research," Association of American Universities, May 2017, https://www.aau.edu/sites/default/files/AAU-Files/Key-Issues/Research-Administration-Regulation/Costs-of-Research/Costs-of-Research-FAQ-AAU-2.pdf.

will not be realigned. Under the consortium model, USU's instruction-days grow, while the other components' instruction-days shrink due to the realignment of graduate programs and METC. The remaining instruction-days in the Service components and DHA J7 are now aligned under the Defense Medical Training Consortium (DMTC). Under the Defense Medical War College Model (DMWC), USU further expands to absorb Phase II enlisted training. All other components are absorbed into the newly formed DMWC. Under the final model, all instruction days are aligned under the USU umbrella.

Table E-2. Realignment of Instruction-Days by COA

	Status Quo	Consortium Model	Defense Medical War College Model	University Model
USU	1,713,978	3,811,849	4,612,083	5,659,072
AMEDDC&S	1,491,236	1,273,298	N/A	N/A
NMETLC	249,209	234,036	N/A	N/A
Air Force	290,294	266,349	N/A	N/A
DHA J7	1,914,356	73,541	N/A	N/A
DMTC	N/A	1,847,223*	N/A	N/A
DMWC	N/A	N/A	1,046,989	N/A
Total	**5,659,072**	**5,659,072**	**5,659,072**	**5,659,072**

* Sum of AMEDDC&S, NMETLC, Air Force, and DHA J7. Not counted towards total (to avoid double counting).

Table E-3 provides even greater detail on students and instruction-days under the status quo. Specifically, each shows each of the sub-components.

Table E-3. Students and Instruction-Days by Component, Status Quo

Status Quo	Students	Instruction-Days
USU		
SOM	962	1,196,202
SOM – Graduate Program	196	323,232
GSN	194	194,544
AMEDDC&S		
AMEDDC&S – Graduate Program	403	167,496
AMEDDC&S – HPSP Support	292	12,054
Clinical Sustainment – Army	12,711	141,193
Initial Enlisted – Army (other)	1,486	241,934
Operational Sustainment – Army	6,193	106,075
Phase II – Army	1,590	251,762
Professional Development – Army	18,912	520,280
USAGPAN	50	17,850
USAGPAN – Phase II Training	48	32,592
NMETLC		
AMEDDC&S – Graduate Program (Navy)	29	15,173
Clinical Sustainment – Navy	1,775	6,889
Operational Sustainment – Navy	7,618	36,234
Initial Enlisted – Navy (other)	574	109,052
Phase II – Navy	406	69,040
Professional Development – Navy	1,601	12,821
Air Force		
Clinical Sustainment – Air Force	2,622	62,680
Initial Enlisted – Air Force (other)	762	24,719
Operational Sustainment – Air Force	9,533	64,172
Phase II – Air Force	1,910	103,727
Professional Development – Air Force	1,505	11,051
USAFSAM	276	23,945
DHA		
METC	16826	1840815
DMRTI	100707	73082
LEADS	153	459
Total	**189,334**	**5,659,072**

C. Cost Savings Ranges

We take a parameter-based approach to calculating cost savings in the synergy analysis. Across each domain of efficiency (Administration, Instruction, and Support), we assume a range of potential savings as described in the main body of this paper. Efficiency parameters are only applied to the costs of merging institutions. Therefore, the model will predict greater savings with greater consolidation. Table E-4 shows the model savings estimates by efficiency parameters.

Table E-4. Model Savings Estimates by Efficiency Parameter ($000)

	Consortium Model		DMWC Model		University Model	
	Savings ($000s)	Percent Savings	Savings ($000s)	Percent Savings	Savings ($000s)	Percent Savings
Administration Efficiencies						
Low	10,000	1.0%	18,000	2.0%	17,000	2.0%
Moderate	19,000	3.0%	36,000	5.0%	34,000	5.0%
High	30,000	4.0%	53,000	7.0%	51,000	7.0%
Instruction Efficiencies						
Low	4,000	0.5%	8,000	1.0%	8,000	1.0%
Moderate	9,000	1.0%	16,000	2.0%	17,000	2.0%
High	13,000	2.0%	24,000	3.0%	26,000	3.0%
Support Cost Efficiencies						
Low	2,000	0.2%	4,000	0.5%	9,000	1.0%
Moderate	3,000	0.4%	8,000	1.0%	18,000	2.0%
High	5,000	0.7%	12,000	2.0%	26,000	4.0%

Note: Savings estimates are presented in the thousands of dollars. Savings values presented assume that all other efficiency parameters remain constant.

D. Transition Costs

Estimating the reorganization and transition costs of the three models is a difficult exercise, given the high degree of uncertainty. Many factors influencing the magnitude of these costs cannot be known a priori. Readers of this paper should keep this uncertainty in mind. Nevertheless, we can provide a reasonable idea of the range of transition costs using the data provided by the components and select parameters from the literature/industry. We use detailed data provided by USU as the basis of this analysis.

USU provided a detailed budget outlining their line item costs for many academic support functions. We re-group these costs according to general categories (e.g., academic support, communications, facilities, or resource management). Many of these academic support functions conceivably scale relative to the number of students (e.g., IT support,

learning management systems, subscriptions). However, different instructional programs would require varying levels of support. For instance, physician education may require significant academic support, whereas a one-day seminar may require very little support. To capture this heterogeneity, we use our intensity metric (instruction-days) to scale academic support costs. We present a summary of USU's support costs as well as the cost per instruction-day in Table E-5.

Table E-5. USU Academic Support Costs

Cost Category	USU Annual Cost	Cost Per Student Day
Academic Support	$2,478,050.58	$1.45
Administration	$3,279,075.40	$1.91
Communications	$3,963,663.80	$2.31
Curriculum	$442,518.63	$0.26
Facilities (Administration)	$8,748,547.00	$5.10
Finance & Administration	$157,564.70	$0.09
Human Resources	$1,284,740.77	$0.75
IT - Equipment	$1,121,550.39	$0.65
IT - Laboratory Services	$1,482,178.61	$0.86
IT - Management	$1,263,831.81	$0.74
IT - Support	$1,178,082.13	$0.69
Project Management	$993,419.86	$0.58
Registrar	$729,726.54	$0.43
Resource Management	$430,238.30	$0.25
Resource Management - Contracts	$242,309.62	$0.14
Resource Management - Finance	$1,553,292.43	$0.91
Simulation Education	$2,117,240.00	$1.24
Total	**$33,201,733.59**	**$18.36**

E. Estimating Costs

If we assume that the proposed DoD E&T institutions such as the DMWC or DMTC would have comparable costs to USU, we can then estimate how much it would cost these institutions to provide the same necessary support services. The calculations are simple. We multiply the number of instruction-days at the new or merged institution by the cost per instruction-day to arrive at an estimate of the annual cost for each organizational component.

F. Estimating Implementation Costs

Using parameters from the literature, particularly a survey of institutions of higher education, we can provide an estimate of the cost to create the necessary academic support functions.[3] The survey provided an estimate of the implementation costs expressed as a percentage of the annual cost. Note that these implementation costs vary widely based upon the size and type of institution involved. For instance, a large public research university with multiple campuses would have different implementation costs relative to a small community college primarily focused on instruction. They also may express different implementation challenges. For example, if a project ran into significant cost overruns or unforeseeable circumstances, these costs would be reflected in the survey's estimates. We have no way to control for the "smoothness" of implementation. As such, we use a range of parameters around the means presented in the survey. Also, note that for the University model, we do not apply a cost "penalty" for implementation, as USU's support costs already exist and would need to only scale to the additional instruction-days.

[3] David Trevvett, *Enterprise Application Projects in Higher Education* (Louisville, CO: EDUCAUSE Center for Analysis and Research, August 2013), https://library.educause.edu/-/media/files/library/2013/8/ers1306-pdf.

Illustrations

Figures

Tables

References

59th Medical Wing. "About 59th Medical Wing." https://www.59mdw.af.mil/About/.

AMEDDC&S HRCoE. "About the U.S. Army Medical Department Center and School Health Readiness Center of Excellence (AMEDDC&S HRCoE)." https://www.cs.amedd.army.mil/about_amedd.aspx.

AMEDDC&S HRCoE. "Directorate of Training and Academic Affairs." https://www.cs.amedd.army.mil/dtaa.aspx.

AMEDDC&S HRCoE. "Medical Professional Training Brigade – 'Train the Team!'" https://www.cs.amedd.army.mil/acad_medbde.aspx.

AMEDDC&S HRCoE. "NCOA Institute of Excellence." https://www.cs.amedd.army.mil/ncoa_new.aspx.

Association of American Universities. "Frequently Asked Questions about Facilities and Administrative (F&A) Costs of Federally Sponsored University Research." May 2017. https://www.aau.edu/sites/default/files/AAU-Files/Key-Issues/Research-Administration-Regulation/Costs-of-Research/Costs-of-Research-FAQ-AAU-2.pdf.

Azziz, Ricardo, Guilbert C. Hentschke, Bonita C. Jacobs, Lloyd A. Jacobs, and Haven Ladd. "Mergers in Higher Education: A Proactive Strategy to a Better Future?" New York: TIAA Institute, September 2017. https://www.ey.com/Publication /vwLUAssets/ey-tiaa-institute-mergers-in-higher-education/%24File/ey-tiaa-institute-mergers-in-higher-education.pdf.

Boston Consulting Group. "MHS Graduate Medical Education (GME)." Presentation. December 2017.

Brevig, Holly, Christina Colosimo, Ted Jaditz, Ramona Krauss, Kara Mandell, Robert Morrow, Jessica Oi, and Wilhelmina Tsang. "The Quality-Volume Relationship: Comparing Civilian and MHS Practice." Arlington, VA: CNA, November 2014. https://www.cna.org/CNA_files/PDF/DIM-2014-U-009221-Final.pdf.

Christensen, Eric W., CDR DeAnn J. Farr, James E. Grefer, and Elizabeth Schaefer. "Cost Implications of a Unified Medical Command." CRM D0012842.A3. Alexandria, VA: Center for Naval Analyses, May 2006. https://www.cna.org /CNA_files/PDF/D0013842.A3.pdf.

Cook, Cynthia R., and John C. Graser. "Chapter 9: Overhead, General, and Administrative Costs." In *Military Airframe Acquisition Costs: The Effects of Lean Manufacturing*, 103–10. MR-1325-AF. Santa Monica, CA: RAND Corporation, 2001. https://www.rand.org/content/dam/rand/pubs/monograph_reports /MR1325/MR1325.ch9.pdf.

Damodaran, Aswath. “The Value of Synergy.” New York: NYU Stern School of Business, October 2005. http://people.stern.nyu.edu/adamodar/pdfiles/papers/synergy.pdf.

Davis, Jack (Col.). “Medical Education and Training Campus.” Brief. Fort Sam Houston, TX, December 11, 2018.

Defence Medical Education & Training Agency (DMETA). *Defence Medical Education and Training Agency Annual Report 2007/08*. London, UK: DMETA, July 2008. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/229297/0834.pdf.

“Defense Health Agency (DHA) J-7 & Uniformed Services University of the Health Sciences (USUHS) Distributed Learning (DL) Functional Analysis.” Appendix A: METC/USU Network Assessment Final IPR. April 9, 2018. Pre-decisional, limited distribution.

Defense Health Agency, Office of the Assistant Secretary of Defense (Health Affairs) (OASD(HA). *Evaluation of the TRICARE Program: Fiscal Year 2018 Report to Congress*. Washington, DC: OASD(HA), Decision Support Division, February 2018. https://www.health.mil/Military-Health-Topics/Access-Cost-Quality-and-Safety/Health-Care-Program-Evaluation/Annual-Evaluation-of-the-TRICARE-Program.

Defense Base Closure and Realignment Commission. “Chapter 1: Joint Cross-Service Groups (JCSGs): Medical.” In *Final Report to the President*, 257–69. Washington, DC: Department of Defense, Sepember 2005. https://www.brac.gov/docs/final/Chap1JCSGMedical.pdf.

“Defense Medical Readiness Training Institute (DMRTI): Mission Brief.” Brief. November 6, 2018. FOUO.

Department of Defense (DoD). *Establishment of Joint Trauma Education and Training Directorate: Interim Report and Implementation Plan*. February 14, 2018. https://health.mil/Reference-Center/Reports/2018/02/14/Joint-Trauma-Education-and-Training-Directorate.

DoD Directive (DoDD) 5136.01, “Assistant Secretary of Defense for Health Affairs (ASD(HA)).” August 10, 2017.

DoDD 5136.13, “Defense Health Agency (DHA).” September 30, 2013. https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodd/513613p.pdf.

DoD Instruction (DoDI) 1300.24, “Recovery Coordination Program (RCP).” December 1, 2009.

DoDI 1322.24, “Medical Readiness Training (MRT).” March 16, 2018.

DoDI 5105.45, “Uniformed Services University of the Health Sciences (USUHS).” December 26, 2013.

DoDI 6000.18, “Medical Modeling and Simulation Requirements Management.” August 22, 2018. https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/600018p.pdf?ver=2018-08-22-072116-810.

DoDI 6040.47, "Joint Trauma System (JTS)." Updated August 5, 2018.

DoD, Joint Requirements Oversight Council. "Joint Medical Modeling and Simulation Requirements Management DOTMLPF-P Change Recommendation." Memorandum 034-16. May 19, 2016.

Department of the Navy. *Education for SEAPOWER, Department of the Navy Education for SEAPOWER (E4S) Study Final Report.* Washington, DC: Department of the Navy, December 2018. https://assets.documentcloud.org/documents/5736105/E4SFinalReport.pdf.

Deputy Secretary of Defense. "Transfer of Uniformed Services University of the Health Sciences to TRICARE Management Activity and Rescission of the Department of the Navy as Department of Defense Executive Agent." Memorandum. November 29, 2006.

Faram, Mark D. "Why SECNAV is Launching Naval University." Navy Times, February 13, 2019. https://www.navytimes.com/news/your-navy/2019/02/13/why-secnav-is-launching-naval-university/.

Garamone, Jim. "New Naval University System Will Develop Agile, Adaptable Leaders." Department of Defense, February 12, 2019. https://dod.defense.gov/News/Article/Article/1755725/new-naval-university-system-will-develop-agile-adaptable-leaders/.

Garza, Ruben, Jr. "Defense Medical Modeling and Simulation Office (DMMSO)." Brief. FOUO. n.d.

Garza, Ruben, Jr. "DHA/J7/LEADS Division Mission Brief." Brief. 2018.

Gillert, Douglas J. "TRICARE Management Activity Launched." *DoD News: American Forces Press Service*, February 11, 1998. http://archive.defense.gov/news/newsarticle.aspx?id=41254.

Government Accountability Office (GAO). "DEFENSE HEALTH CARE: DoD's Proposed Plan for Oversight of Graduate Medical Education Programs." GAO-19-338. Washington, DC: GAO, March 2019. https://www.gao.gov/products/GAO-19-338.

GAO. "MILITARY PERSONNEL: Additional Actions Needed to Address Gaps in Military Physician Specialties." GAO-18-77. Washington, DC: GAO, February 2018. https://www.gao.gov/products/GAO-18-77.

Harper, Stephen, Remle Crowe, Melissa Bentley, Chetan Kharod, and Banjamin Walrath. "An Assessment of National EMT Certification Among Enlisted Military Medics." *Military Medicine* 182, no. suppl_1 (March 2017): 336–9. https://doi.org/10.7205/MILMED-D-16-00238.

Health.mil. "Defense Medical Readiness Training Institute." https://www.health.mil/About-MHS/OASDHA/Defense-Health-Agency/Education-and-Training/Defense-Medical-Readiness-Training-Institute.

Health.mil. "Education and Training (J7)." https://health.mil/About-MHS/OASDHA/Defense-Health-Agency/Education-and-Training.

Health.mil. “Elements of the MHS: Defense Health Agency.” https://health.mil/About-MHS/MHS-Elements.

Health.mil. “Leadership, Education, Analysis, Development, Sustainment (LEADS).” https://health.mil/About-MHS/OASDHA/Defense-Health-Agency/Education-and-Training/LEADS.

Health.mil. “Office of the Assistant Secretary of Defense for Health Affairs.” https://health.mil/About-MHS/OASDHA.

Health.mil. “Shared Service Functions.” Defense Health Agency: Education and Training (J7). https://health.mil/About-MHS/OASDHA/Defense-Health-Agency/Education-and-Training.

Hegji, Alexandra. “An Overview of Accreditation of Higher Education in the United States.” R43826. Washington, DC: Congressional Research Service, March 2017. https://fas.org/sgp/crs/misc/R43826.pdf.

Joint Chiefs of Staff. “Joint Concept for Health Services (JCHS).” Washington, DC: DoD, August 2015. https://afrims.amedd.army.mil/media/joint_concept_health_services.pdf.

Kastor, John A. “Failure of the Merger of the Mount Sinai and New York University Hospitals and Medical Schools: Part 2.” *Academic Medicine* 85, no. 12 (December 2010): 1828–32. https://doi.org/10.1097/ACM.0b013e3181f65019.

Kvavik, Robert B., Richard N. Katz, Karin Beecher, Judith Caruso, Paula King, John voloudakis, and Lori-Anne Williams. *The Promise and Performance of Enterprise Systems for Higher Education*, Volume 4. Boulder, CO: EDUCAUSE Center for Applied Research, 2002. https://www.educause.edu/ir/library/pdf/ERS0204/rs/ers0204w.pdf.

Ledford, Heidi. “Indirect Costs: Keeping the Lights On.” *Nature* 515, no. 7527 (December 23, 2014): 326–9. https://www.nature.com/news/indirect-costs-keeping-the-lights-on-1.16376.

Lurie, Philip M. “Comparing the Costs of Military Treatment Facilities with Private Sector Care.” IDA Paper NS P-5262. Alexandria, VA: Institute for Defense Analyses, February 2016.

Mabry, R. L., A. Apodaca, J. Penrod, J. A. Orman, R. T. Gerhardt, and W. C. Dorlac. “Impact of Critical Care-Trained Flight Paramedics on Casualty Survival during Helicopter Evacuation in the Current War in Afghanistan.” *Journal of Trauma and Acute Care Surgery* 73, no. 2, suppl 1 (August 2012): S32–S37. https://doi.10.1097/TA.0b013e3182606001.

Medical Education & Training Campus Program Catalog Committee. *Medical Education & Training Campus 2017-2019 Program Catalog*. Fort Sam Houston, TX: DoD, 2018. https://www.metc.mil/Catalog/METC_Catalog.pdf.

Middle States Commission on Higher Education. “Standards for Accreditation and Requirements of Affiliation.” https://www.msche.org/standards/.

Military Compensation and Retirement Modernization Commission (MCRMC). "Final Report: Report of the Military Compensation and Retirement Modernization Commission." Washington, DC: MCRMC, January 2015. https://apps.dtic.mil/docs/citations/ADA625626.

Military Health System Communications Office, Defense Health Headquarters. "Woodson Closes Out Time as Leader of Military Health System, Formally Recognizes TMA Contribution." Air Force Medical Service, May 2, 2016. https://www.airforcemedicine.af.mil/News/Article/747135/.

National Commission on Recognition of Dental Specialties and Certifying Boards. "Specialty Definitions." https://www.ada.org/en/ncrdscb/dental-specialties/specialty-definitions.

Navy Medicine Education, Training and Logistics Command (NMETLC). "Welcome Aboard!" https://www.med.navy.mil/sites/nmetc/SitePages/WELCOME.aspx.

NMETLC. "Welcome Aboard." Brief, Fort Sam Houston, TX, December 12, 2018.

Navy Medical Logistics Command. "Chain of Command: NMLC Organizational Structure." https://www.med.navy.mil/sites/nmlc/Pages/AU-ChainofCommand.aspx.

Navy Medicine Operational Training Center. "Welcome to NMOTC." NMOTC – Pensacola. https://www.med.navy.mil/sites/nmotc/Pages/default.aspx.

Navy Medicine Professional Development Center. "Welcome to NMPDC." https://www.med.navy.mil/sites/nmpdc/Pages/index.aspx.

Navy Medicine Training Support Center. "Navy Medicine Training Support Center: About." https://www.med.navy.mil/SITES/NMTSC/Pages/default.aspx.

Office of the Assistant Secretary of Defense (Health Affairs). "Education and Training Shared Services." Washington, DC: Defense Health Agency, August 19, 2014.

Office of the Assistant Secretary of Defense (Health Affairs). "Memorandum for Director of Administration and Management: Organizational Alignment of Uniformed Services University of the Health Sciences." Memorandum. April 25, 2013.

OSD CAPE. "Full Cost of Manpower (FCoM)." https://www.cape.osd.mil/content/CAPEWebSites.html.

OSD CAPE. "Related CAPE Websites," https://www.cape.osd.mil/content/CAPEWebSites.html.

Sargent, Patrick D. "USAMEDDC&S Health Readiness Center of Excellence Command Brief." Brief. December 2018.

Trevvett, David. *Enterprise Application Projects in Higher Education.* Louisville, CO: EDUCAUSE Center for Analysis and Research, August 2013. https://library.educause.edu/-/media/files/library/2013/8/ers1306-pdf.

Under Secretary of Defense (Comptroller). *Defense Wide Budget Documentation: OP-5 Education and Training DHP PB19.* Washington, DC: DoD, 2019.

https://comptroller.defense.gov/Budget-Materials/FY2019BudgetJustification/#defhealthprog.

Under Secretary of Defense (Personnel and Readiness) (USD(P&R)). *Military Health System Modernization Study Team Report*. Washington, DC: DoD, May 29, 2015.

USD(P&R). *Report on Oversight of Graduate Medical Education Programs of Military Departments: Final Report.* Washington, DC: DoD, 2018.

USD(P&R). *A Report to Congress on the Organizational Structure of the Office of the Assistant Secretary of Defense for Health Affairs and the TRICARE Management Activity.* Washington, DC: DoD, 2011.

Uniformed Services University (USU). "Position Paper: Reporting Structure for Uniformed Services University of the Health Sciences." 2019.

USU, College of Allied Health Sciences. "About the College of Allied Health Sciences." https://www.usuhs.edu/cahs.

USU, Graduate School of Nursing. "Daniel K. Inouye Graduate School of Nursing." https://www.usuhs.edu/gsn.

USU, Graduate School of Nursing. "Mission, Vision, Guiding Principles and Strategic Plan." https://www.usuhs.edu/gsn/mission.

USU, Postgraduate Dental College. "About the PDC." https://www.usuhs.edu/pdc/about.

USU, School of Medicine (SOM). "About the School of Medicine." https://www.usuhs.edu/medschool/about.

USU, SOM. "Strengthening Oversight and Organization of Graduate Medical Education in the Military Health System: Analysis and Options." Bethesda, MD: USU Defense Health Horizons, June 2018. Pre-decisional.

United States Congress. *John S. McCain National Defense Authorization Act for Fiscal Year 2019: Report of the Committee on Armed Services, House of Representatives, H.R. 5515.* Washington, DC: US House of Representatives, 2019.

U.S. Army. "Army Medicine, AMEDD Benefits." https://www.goarmy.com/amedd/health-care/benefits.html.

U.S. News & World Report. "Best Nursing-Anesthesia (CRNA) Schools." https://www.usnews.com/best-graduate-schools/top-health-schools/nurse-anesthesia-rankings.

Whitley, John. "Five Actions to Improve Military Hospital Performance." Washington, DC: IBM Center for the Business of Government, September 2017. http://www.businessofgovernment.org/sites/default/files/Five%20Actions%20to%20Improve%20Military%20Hospital%20Performance.pdf.

Whitley, John E., Joseph F. Adams, Joseph J. Angello, Jennifer T. Brooks, Sarah K. Burns, Jason A. Dechant, Stanley A. Horowitz, Philip M. Lurie, John E. Morrison, and Paul M. Thompson. "Essential Medical Capabilities and Medical Readiness." IDA Paper NS P-5305. Alexandria, VA: Institute for Defense Analyses, July 2016.

Whitley, John E., Brandon R. Gould, Nancy M. Huff, and Linda Wu. “Medical Total Force Management.” IDA Paper P-5047. Alexandria, VA: Institute for Defense Analyses, May 2014.

Wright-Patterson AFB. “711 HPW – USAF School of Aerospace Medicine (USAFSAM).” https://www.wpafb.af.mil/afrl/711hpw/USAFSAM/.

Abbreviations

4N0X1	Air Force Technician
68W	Army Combat Medic
711 HPW	711th Human Performance Wing
AC	Active Component
ACGME	Accreditation Council for Graduate Medical Education
AFMOA	Air Force Medical Operations Agency
AFMS	Air Force Medical Service
AFMSA	Air Force Medical Support Agency
ALS	Advanced Life Support
AMEDDC&S	Army Medical Department Center and School
ASD(HA)	Assistant Secretary of Defense for Health Affairs
ATTC	Army Trauma Training Course
B.S.	Bachelor of Science
BAG	Budget Activity Group
BAMC	Brooke Army Medical Center
BCG	Boston Consulting Group
BOR	Board of Regents
BRAC	Base Realignment and Closure
BUMED	Navy Bureau of Medicine and Surgery
CAHS	College of Allied Health Sciences
CAPE	Cost Assessment & Program Evaluation
CBRNE	Chemical, Biological, Radiological, Nuclear, and Explosive
CCFP	Critical Care Flight Paramedic
CCMD	Combatant Command
CE	Continuing Education
CEU	Continuing Education Unit
CHEA	Council for Higher Education Accreditation
CIVPAY	Civilian Pay
CIVPERS	Civilian Personnel
CJCS	Chairman of the Joint Chiefs of Staff
CM	Consortium Model

CNRA	Nurse Anesthesia
COA	Course of Action
COM	College of Operational Medicine
C-STARS	Air Force Center for the Sustainment of Trauma and Readiness Skills
D.D.S.	Doctor of Dental Surgery
D.M.D.	Doctor of Medicine in Dentistry
D.M.V.	Doctor of Veterinary Medicine
D.O.	Doctor of Osteopathic Medicine
DASD(HA)FHP&R	Deputy Assistant Secretary of Defense for Health Affairs/Force Health Protection and Readiness
DCoE	Department of Defense Center of Excellence
DCR	DOTMLPF-P Change Recommendation
DHA	Defense Health Agency
DHHQ	Defense Health Headquarters
DHP	Defense Health Program
DL	Distributed Learning
DMETA	Defence Medical Education and Training Agency
DMMSO	Defense Medical Modeling and Simulation Office
DMRTI	Defense Medical Readiness Training Institute
DMTC	Defense Medical Training Consortium
DMWC	Defense Medical War College
DNP	Doctor of Nursing Practice
DoD	Department of Defense
DoDD	Department of Defense Directive
DoDI	Department of Defense Instruction
DoTAA	Directorate of Training and Academic Affairs
DOTMLPF-P	Doctrine, Organization, Training, Material, Leadership and Education, Personnel, Facilities, and Policy
E&T	Education and Training
E4S	Education for Seapower
ED	US Department of Education
EMDP2	Enlisted-to-Medical Degree Preparatory Program
EMT	Emergency Medical Technician
EMT-B	Emergency Medical Technician-Basic
ETO	Education and Training Organization
FAP	Financial Assistance Program

FCoM	Full Cost of Manpower
FY	Fiscal Year
GAO	Government Accountability Office
GDE	Graduate Dental Education
GDF	Guidance for the Development of the Force
GHE	Graduate Health Education
GME	Graduate Medical Education
GSN	Graduate School of Nursing
GSPH	Graduate School of Public Health and Biomedical Sciences
HM-0000	Navy Corpsman
HMPDS	Health Manpower Personnel Data System
HPLRP	Health Professions Loan Repayment Program
HPSP	Health Professions Scholarship Program
HRCoE	Health Readiness Center of Excellence
IAB	Integration Advisory Board
IB	Integration Board
IDA	Institute for Defense Analyses
IM/IT	Information Management and Technology
IT	Information Technology
J7	Defense Health Agency Education and Training Directorate
JBSA	Joint Base San Antonio
JCHS	Joint Concept for Health Services
JMESI	Joint Medical Executive Skills Institute
JMRTC	Joint Medical Readiness Training Center
JROC	Joint Requirements Oversight Council
JTETD	Joint Trauma Education and Training Directorate
JTS	Joint Trauma System
LEADS	Leadership, Education, Analysis, Development and Sustainment
LMS	Learning Management System
LPN	Licensed practical Nurse
M&S	Modeling and Simulation
M.D.	Doctor of Medicine
MAJCOM	Major Command
MCRMC	Military Compensation and Retirement Modernization Commission

MEDCOM	Army Medical Command
MEPRS	Medical Expense and Performance Reporting System
METC	Medical Education and Training Campus
MFSS	Medical Field Service School
MHS	Military Health System
MILCON	Military Construction
MILDEP	Military Department
MILPERS	Military Personnel
MM&S	Medical Modeling and Simulation
MOS	Military Occupational Specialty
MRT	Medical Readiness Training
MSCHE	Middle States Commission on Higher Education
MSN	M.S. in Nursing
MTF	Military Treatment Facility
NCC	National Capital Consortium
NCOA	Noncommissioned Officers Academy
NCP	Nurse Candidate Program
NCR	National Capital Region
NDAA	National Defense Authorization Act
NEC	Navy Enlisted Classification
NMETLC	Navy Medicine Education, Training, & Logistics Command
NMLC	Navy Medical Logistics Command
NMOTC	Navy Medicine Operational Training Center
NMPDC	Navy Medicine Professional Development Center
NMTSC	Navy Medicine Training Support Center
NRM	Navy Reserve Medicine
NR-METC	Navy Reserve Medical Education and Training Center
NSTI	Navy Survival Training Institute
NTTC	Navy Trauma Training Center
O&M	Operations and Maintenance
OAC	Oversight Advisory Council
OASD(HA)	Office of the Assistant Secretary of Defense for Health Affairs
OGE	Office of Graduate Education
OSD	Office of the Secretary of Defense
PA	Physician Assistant
PDC	Postgraduate Dental College

PE	Program Element
Ph.D.	Doctor of Philosophy
PPBE	Planning, Programming, Budgeting, and Execution
R&D	Research and Development
R.N.	Registered Nurse
RC	Reserve Component
RCP	Recovery Coordination Program
RDT&E	Research, Development, Testing, and Evaluation
RSM	Recovering Service Member
SAMMC	San Antonio Regional Military Medical Center
SAUSHEC	San Antonio Uniformed Services Health Education Consortium
SG	Surgeon General
SOM	School of Medicine
SPD	School of Professional Development
SRS	School of Readiness and Sustainment
TAA	Training Affiliate Agreement
TCCC	Tactical Combat Casualty Care
TMA	TRICARE Management Activity
TRADOC	Army Training and Doctrine Command
UK	United Kingdom
UM	University Model
USAF	US Air Force
USAFSAM	US Air Force School of Aerospace Medicine
USAGPAN	Army-Baylor Graduate Program in Anesthesia Nursing
USAMEDCOM	US Army Medical Command
USD(P&R)	Under Secretary of Defense for Personnel and Readiness
USSOCOM	United States Special Operations Command
USU(HS)	Uniformed Services University (of the Health Sciences)
V.M.D.	Veterinariae Medicinae Doctoris
VA	Veterans Affairs
WHS	Washington Headquarters Service

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.

1. REPORT DATE *(DD-MM-YYYY)*	2. REPORT TYPE	3. DATES COVERED *(From - To)*
xx-09-2019	Final	Nov 2018 - Apr 2019

4. TITLE AND SUBTITLE

Feasibility Study for the Consolidation of Military Medical Education and Training Organizations, Functions, and Activities (Revised)

5a. CONTRACT NUMBER

HQ0034-14-D-0001

5b. GRANT NUMBER

5c. PROGRAM ELEMENT NUMBER

6. AUTHOR(S)

Burns, Sarah, K.
Carrington-Fair, Dylan, J.
Goldberg, Matthew, S.
Hildreth, Laura, A.
Lindly, Jamie, M.
Luan, W., Patrick
Minneci, Madeline

5d. PROJECT NUMBER

FL-7-4586

5e. TASK NUMBER

5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

Institute for Defense Analyses
4850 Mark Center Drive
Alexandria, VA 22311-1882

8. PERFORMING ORGANIZATION REPORT NUMBER

IDA Paper P-10615, Revised
H 19-000197

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

Defense Health Headquarters
7700 Arlington Blvd, Suite 5101
Falls Church, VA 22042

10. SPONSOR/MONITOR'S ACRONYM(S)

DHH

11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT

Approved for public release; distribution is unlimited.

13. SUPPLEMENTARY NOTES

Supersedes IDA Paper P-10615, June 2019.

14. ABSTRACT

The medical education and training (E&T) enterprise is large, complex, and decentralized. The purpose of this project is to analyze the feasibility (and desirability) of consolidating military medical E&T organizations, functions, and activities into a newly established Education and Training Organization (ETO) subordinate to the Defense Health Agency and headed by the president of the Uniformed Services University (USU). To complete this analysis, we perform the first collective assessment of the Department's medical E&T enterprise as a whole. Three different reform models are then developed and analyzed. Our findings indicate that it is feasible to consolidate medical E&T and that consolidation would be expected to provide certain benefits. However, the estimated financial and opportunity costs associated with the reform options are also significant.

15. SUBJECT TERMS

Medical Education and Training; ETO; E&T

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			Smith, David
Unclassified	Unclassified	Unclassified	Same as Report	180	19b. TELEPHONE NUMBER *(Include area code)* (703) 681-6893

Reset

Standard Form 298 (Rev. 8/98)
Prescribed by ANSI Std. Z39.18