

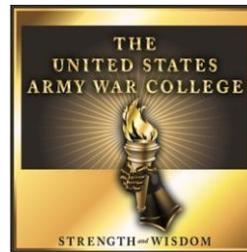
# Program Research Project

## A Joint Force Medical Command is Required to Fix Combat Casualty Care

by

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## Abstract

The Military Health System (MHS) is required to provide medical operational forces for military and contingency operations while also providing services that maintain a healthy military force while also caring for a beneficiary population of over 9 million military personnel, dependents, and retirees. The relationship of these competing missions is to some degree adversarial. The most obvious example of the competition between the beneficiary and operational missions is the U.S. Army's Professional Filler System that assigns medical personnel required by operational units to hospitals and clinics while secondarily assigning them to deployable units. This system curtails effective mission command in operational units and severely degrades the MHS' ability to provide timely support of joint forcible entry or other contingencies requiring rapid response. Further, the complexity and cost of the beneficiary mission results in prioritization of beneficiary care over the operational medical mission. Finally, the worsening of surgical outcomes in Afghanistan and Iraq, as compared to the Vietnam War, may be related to the lack of a command entity responsible and accountable for battlefield medical outcomes and indicates a Joint Forces Medical Command is required. Medical readiness, specifically the training of those personnel who deliver trauma and surgical capabilities, requires a command hierarchy responsible and accountable for battlefield healthcare with authority to ensure medical forces are prepared to support combat operations.

## **A Joint Force Medical Command is Required to Fix Combat Casualty Care**

### Introduction

The United States Army and Air Force Medical Departments and the Navy Bureau of Medicine require a Joint Forces Medical Command (JFMC), separate from the Defense Health Agency (DHA), responsible for ensuring required operational medical capabilities exist to provide timely and appropriate support for joint forcible entry, humanitarian, and other contingency operations.

The Department of Defense (DOD) Military Health System (MHS) is a global, comprehensive, integrated system that includes combat medical services, health readiness futures, a health care delivery system, public health activities, medical education and training, and medical research and development.”<sup>1</sup> The MHS is tasked with maintaining a healthy military force and beneficiary care and also training equipping and leading a deployable medical force. However, the complexities of managing a massive healthcare delivery organization, conflict with the MHS’ requirements to provide a trained battlefield healthcare medical force and operational medical units capable of supporting combat operations.

The DOD has created a world-class healthcare organization that ensures soldiers are healthy and deployable, delivers quality healthcare to millions of beneficiaries and provides the required training platform for many of the 86,000 active duty medical personnel who then extrapolate their expertise to operational environments.<sup>2</sup> However, the nature of the healthcare provided to MHS beneficiaries does not cover the entire spectrum of healthcare services required on the battlefield as it lacks the patient volume and acuity to sustain an adequate cadre of trauma experts.<sup>3</sup>

Further, the hospitals, ambulatory care clinics, and dental clinics of the MHS compete with operational medical units for the medical professionals both require to accomplish distinct missions. The professional filler system (PROFIS) assigns medical professionals to military treatment facilities while also designating them as part of specific operational units.<sup>4</sup> While this system serves the healthcare delivery mission well, it has a significantly negative impact on the medical units, which deprived of their medical professionals, are unable to train adequately for their missions or respond quickly to an emerging crisis.<sup>5</sup> The consequences of PROFIS on the operational force casts doubt on the ability of the MHS to provide a deployable medical force, especially when a rapid response is required.

Recognizing the limitations of the MHS to provide well trained trauma experts, and concerned with the costs of providing healthcare to Department of Defense (DOD) beneficiaries, Congress recently enacted into law several steps to address the problems.<sup>6</sup> The most significant directive tasked the Defense Health Agency (DHA) to serve as a headquarters bringing the direct and purchased care components of the military health system into a single integrated healthcare system (IHS).<sup>7,8</sup> Other provisions of the law sought to improve trauma training and preserve battlefield healthcare lessons learned by creating a Joint Trauma System (JTS) and a Directorate for Trauma Training and Education.<sup>9</sup> The DHA is well suited in its role as headquarters to direct the management of the military healthcare delivery system and meet the requirement of maintaining a healthy joint force and providing beneficiary healthcare. However, the same organization responsible for healthcare delivery should not also be responsible for ensuring military personnel and units can execute their wartime

missions. Both missions are complex and require dedicated leaders who are responsible, accountable, and with authority to complete the separate missions.

Instead, a JFMC should be created that is responsible to ensure a highly trained medical force is immediately available to provide health service support across the spectrum ranging from combat casualty care to humanitarian operations. Such a command would also be responsible for eliminating redundancy of personnel, equipment and units between the Services as it pertains to the operational medical force, and it would also ensure personnel and medical capability requirements are made based on the needs of the joint force. The JFMC would also eliminate PROFIS and instead provide a pool of borrowed manpower to the IHS restoring balance in favor of the operational readiness mission. For those medical specialists whose medical competencies the IHS cannot sustain, the JFMC would establish relationships with civilian institutions possessing the required workload while maintaining the required operational units in an immediately deployable status. A JFMC would be well suited to ensure the lessons learned on today's battlefields are not forgotten before the next conflict.

### The Military Health System Requirement

The DOD MHS currently is a healthcare enterprise responsible for both ensuring service members are medically ready and capable of deploying and also for providing a highly trained medical force that can care for service members across a continuum from peacetime maladies to treatment from injuries received on the battlefield.<sup>10</sup> The MHS is also responsible for providing care to a beneficiary population that includes service member's families and retired military personnel among others.<sup>11</sup> The MHS provides

medical care to approximately 9.6 million beneficiaries at a cost of approximately \$50 billion per year.<sup>12</sup>

The MHS has both a direct and a purchased care component collectively known as TRICARE.<sup>13</sup> The purchased care component of TRICARE is an authorized network of civilian healthcare providers and institutions that included 3,310 hospitals and over 470,000 participating providers in fiscal year 2013.<sup>14</sup> The direct care component of TRICARE constitutes approximately half of the healthcare provided by the MHS and is delivered at military facilities that include 56 hospitals, 361 ambulatory care clinics, and 249 dental clinics.<sup>15</sup> In FY 2013, the MHS was staffed by over 86,000 active duty military personnel and employed over 60,000 civilian employees.<sup>16</sup> The cost and complexity of the MHS compare to that of Kaiser Permanente, one of the Nation's largest healthcare service providers, which serves approximately 9.3 million beneficiaries with 38 hospitals, 618 medical offices, and over 17,000 physicians, at an annual cost of approximately \$53 billion.<sup>17</sup>

The genesis of the current MHS traces its origins to the period after World War II when the MHS began to train its own physicians in an effort to sustain a nucleus of well-trained medical corps officers in the active force.<sup>18</sup> After the Korean War ended, military physician needs were augmented by the Berry Plan, which allowed physicians in training to complete their residency training without the fear of being drafted.<sup>19</sup> After completing residency training, individual physicians were conscripted based on the needs of the military at the time. This model served the Department of Defense well until the draft was abolished following the Vietnam War.<sup>20</sup>

The abolishment of the draft resulted in a severe shortage of physicians and required the development of effective tools to recruit physicians into military service. The course of action chosen included the creation of the Uniformed Services University of Health Science School of Medicine as well as the Health Professions Scholarship Program. These programs paid for medical school training and provided stipends to medical students in exchange for a term of military service.<sup>21</sup> Additionally, residency programs within military treatment facilities were expanded to offer graduate medical education to graduating medical students.<sup>22</sup> The opportunity to avoid medical school debt and receive exceptional medical training proved effective in recruiting physicians into the all-volunteer military and similar programs evolved to train the majority of medical specialists the military required ranging from medics to nurse anesthetists.

The natural result of the medical departments' need to train their own work force was the expansion of the MHS, which could then provide the volume of patients required to sustain the training requirements of a deployable medical force. The success of the MHS in developing these programs was remarkable. The military residency programs graduate board eligible physicians who routinely outperform their non-military peers in board qualification and certification exams, and similar results are achieved in the physician assistant and certified registered nurse anesthetist's programs.<sup>23</sup> Also, research conducted within the MHS often paces advancement in the medical sciences.<sup>24</sup> A recent review undertaken by the DOD demonstrated the MHS with some variability met and often exceeded standards achieved by the Nation's best hospitals in timeliness of care, quality of care and patient safety.<sup>25</sup> The MHS is a world-class organization that ensures soldiers are healthy and deployable, delivers quality

healthcare to millions of beneficiaries and provides a training platform for many of the Services active duty medical personnel. Further, the MHS has been instrumental in providing the medical professionals required to go to war since the adoption of an all-volunteer force. However, the trend of specialization of medical professionals due to the advancement of medical science and technology has created critical training capability gaps within most military hospitals.

### Trauma Management Augmentation

The nature of the healthcare provided to MHS beneficiaries, while excellent, does not cover the entire spectrum of healthcare services required on the battlefield. The active duty population of the armed services is overwhelmingly young and healthy, and the most common cause of a patient admission to a military hospital is related to childbirth.<sup>26</sup> In contrast, the top inpatient diagnoses in Iraq in 2007 were open wounds to the head, neck and trunk and open wounds of the extremity.<sup>27</sup> These types of wounds are often life threatening, and the trauma specialists who manage them must have exposure to similar types of wounds and in sufficient quantity if they are to be successfully managed on the battlefield.<sup>28</sup> The data suggests the MHS does not have the right kind of patient population to prepare medical personnel for these types of injuries. The Assistant Secretary of Defense, Jonathon Woodson in his July 2015 comments to congress acknowledged this when he stated,

The [Military Compensation and Retirement Modernization] Commission is correct in asserting that a number of military medical facilities do not have sufficient internal clinical volume or case mix to sustain these [trauma] skills. The Commission is also correct in concluding that the Department does not apply the same rigor to managing clinical aspects of joint medical capabilities as it does with other aspects of military capability. We agree that combat trauma is an important capability that deserves special attention.<sup>29</sup>

The inability of the MHS to consistently provide high acuity trauma patients with the volume required to sustain its trauma specialists is not new. A Government Accounting Office report published in April 1998 noted,

DOD lessons learned after the Gulf War highlighted that many medical personnel had little to no experience in taking care of severely injured patients. For example, of the 16 surgeons on the Navy hospital ship USNS Mercy, only 2 had recent trauma surgical experience. Also, none of the over 100 corpsmen at a surgical support company had ever seen actual advanced trauma life support given to a trauma patient.<sup>30</sup>

More recently, the January 2015 Report of the Military Compensation and Retirement Modernization Commission noted,

...beneficiary care may not sufficiently provide ideal training opportunities to maintain and sustain the military medical capabilities developed during the last 13 years of war. For example, prevalent injuries and wounds during operations in Afghanistan and Iraq were a result of penetrating or blast trauma... A survey of general surgeons from all military Services who deployed between 2002 and 2012 found that 80 percent of respondents desired additional training on particular surgical disciplines or injury types prior to deployment. The most commonly requested types of training were extremity vascular repairs, neurosurgery, orthopedics, and abdominal vascular repairs.<sup>31</sup>

Clearly, the surgeons responsible for performing the complex life-saving surgeries required on the battlefield did not believe their pre-war experience in military treatment facilities prepared them for the battlefield.

The need to augment the clinical experience available in military treatment facilities with trauma specific training has been recognized since the Persian Gulf War, however little progress has been made in this arena. While the Army does maintain trauma centers at Madigan Army Medical Center and Brooke Army Medical Center, these hospitals can train only a small percentage of the trauma specific force required for the battlefield. Therefore, while the MHS provides excellent care to its beneficiaries

and can train part of the force required for the battlefield, it must develop methods to augment the trauma specific training required for trauma specialists.

### The Military Health System Cannot be Outsourced

The consistent increase in healthcare costs has caused concern within DOD that unless controlled, important defense programs will be threatened, which in turn, has caused ever-increasing scrutiny of MHS costs.<sup>32</sup> The military health system costs, have outpaced the civilian sector by about 30% increasing 130% from 2000 to 2012 causing healthcare cost as a percentage of the DOD budget to increase from 6% to nearly 10% over that time.<sup>33</sup> The increasing costs led some to conclude DOD beneficiary care should be privatized.<sup>34</sup> It is therefore important to understand how the complexity of both providing beneficiary care and maintaining a trained medical operational force may exceed civilian costs, and subsequently the difficulty of privatizing military specific requirements.

A 2016 study conducted by the Institute for Defense Analysis, “Comparing the Costs of Military Treatment Facilities with Private Sector Care” found care provided in military treatment facilities was 30 to 50% more expensive than the same level of care provided in the civilian sector.<sup>35</sup> Based on this study and other similar studies, some advocate, “outsourcing all but the essential medical capabilities needed for combat operations” to the private sector.<sup>36</sup> However, these analyses fail to consider that the funds the MHS receives cover the costs of not only medical readiness and training a deployable medical force but also, and significantly, beneficiary care. The expense of both the beneficiary and operational missions persist if beneficiary care is outsourced.

Also, those who would dismantle the healthcare delivery part of the MHS fail to understand the importance of the medical centers within the MHS as a recruiting platform and the role healthcare deliver plays training medical providers for the battlefield who, while not trauma specialists, still provide the majority of healthcare in the deployed setting. When one considers that the total number of outpatient encounters in Iraq in 2007 was 62,983 compared to 16,555 inpatient encounters, it is clear the primary care component of battlefield healthcare is vital to preserving combat strength.<sup>37</sup> The MHS is well suited to provide much of the required medical training to sustain not only non-surgeon physicians, but also medics, physician assistants, nurse practitioners, registered nurses and a multitude of technicians and therapists. Indeed, when one considers the vast majority of medical personnel in the active duty medical services are not trauma specialists, the MHS as a training platform seems imperative.

Another common refrain is military providers cost more than civilians.<sup>38</sup> Those who would outsource the beneficiary mission of the MHS due to cost seem unaware military providers “cost more” than their civilian counterparts because they have duties and responsibilities beyond clinical practice. They are also military professionals and as such attend military education courses including in some cases Command and General Staff College and the War College, which are each a year in duration. Many also serve in important leadership positions both within military treatment facilities (MTF) and in operational units.<sup>39</sup> Additionally, there is a constant churning of medical personnel coming from and going to various theaters to support combat operations.<sup>40</sup> Often there are additional requirements to attend field training with units like combat support hospitals, particularly when those units conduct training at the National Training Center

or Joint Readiness Training Center to enumerate just a few examples of non-medical training requirements of medical personnel.<sup>41</sup>

The MHS also plays a critical role in the care of soldiers who have permanent injuries sustained during their military service including physical and psychological wounds. The consequences of prolonged combat conditions and frequent deployments has resulted in the development of a comprehensive behavioral health system within the MHS that is integrated into military units and provides services before, during and after deployments not only for service members but also their families.<sup>42</sup> The MHS, in cooperation with the Department of Health and Human Services, and the Veterans Administration (VA), continues to research to better understand the high risk of suicide and post-traumatic stress disorder in combat veterans.<sup>43</sup> Also, the evaluation of soldiers with disabilities is a highly specialized process that involves both the DOD and the VA and a system of examinations and appeals that can span several months.<sup>44</sup> It must be remembered Congress directed these programs.<sup>45</sup> It seems unlikely wounded service members would be served well by privatizing the care of casualties with battlefield specific conditions and wounds.

#### Healthcare Management vice Operational Readiness

The intense focus on the cost of healthcare delivery causes the efficient management of the beneficiary and healthcare delivery mission to be prioritized over the operational medical readiness mission. Service medical department and military treatment facility leaders are under intense pressure to close the reported productivity gap between civilian and military providers and organizations.<sup>46</sup> Their best tool to do so involves moving patients from the purchased care realm of TRICARE back into the

direct care MTFs thus improving MTF productivity and subsequently decreasing the amount of money spent to purchase care.<sup>47</sup> To do this, they need to keep uniformed medical professionals in the hospital or clinic in order to control costs. This, in turn, results in a powerful disincentive to make medical personnel available for the required duties and training outside the MTF.<sup>48</sup> Most medical leaders and uniformed medical professionals do all they can to achieve the best productivity possible while balancing the requirements to be officers and non-commissioned officers in their respective services, sometimes at the expense of either their military or medical professional career.<sup>49</sup>

Much of senior military medical leaders' time is spent explaining to Congress the cost, quality and safety of the treatment rendered to MHS beneficiaries. Consider the Director of the DHA's, Vice Admiral Raquel C. Bono comments to the House Appropriations Defense Subcommittee in 2016. After a brief comment on the excellent results achieved on the battlefield, the topics discussed included the fielding of a multi-billion dollar modernized electronic health record system, implementation of high-reliability organizational practices, using the Partnership for Improvement system and other measurement instruments to ensure access, quality, safety, satisfaction, and better management of costs. Also discussed were "first call resolution" policies, extending clinic hours to evenings and weekends, the use of integrated practice units, the implementation of a nurse advice line, and of course participation in the American College of Surgeons National Surgical Quality Improvement Program among many other healthcare related topics.<sup>50</sup> It is also useful to consider where senior medical leaders spend their time.

There are currently 17 active-component Army Medical Department general officers including 2 reserve general officers. Of the 15 non-reserve component general officers, only the Joint Surgeon, Forces Command Surgeon and commanders of the U.S. Army Material Medical Research Command and the United States Army Medical Department Center and School do not have a direct role in MTF administration. Considering the Army component of the MHS includes 8 medical centers, 14 hospitals and 107 primary care clinics staffed by approximately 45,000 active duty personnel at an annual cost of 11.7 billion dollars,<sup>51</sup> the number of general officers involved in its management seems barely adequate. Indeed, in 2013, Kaiser Permanente listed 50 executive positions of whom 22 earned salaries ranging from \$1,016,889.00 to \$10,195,932.<sup>52</sup>

The healthcare delivery component of the MHS is a large, complex healthcare organization that requires an enormous commitment from the senior leaders responsible for managing it and ensuring it meets the needs of beneficiaries in a dynamic competitive healthcare environment. Senior medical leaders who have the responsibility for running the IHS healthcare delivery business are under continuous, intense scrutiny to justify the expense of the IHS and are held to very high standards by Congress and DOD leaders.<sup>53</sup> By any fair measure the service medical departments have been remarkably successful in meeting the healthcare needs of their beneficiaries, maintaining the medical readiness of service members and in meeting many of the requirements to train a medical force for the battlefield.<sup>54</sup>

However, it is unreasonable to believe the same senior military medical leaders responsible for managing a complex healthcare delivery system should also be

responsible for ensuring medical operational units are capable of supporting combat and other contingency operations. This is true because the complexity of managing the healthcare delivery mission that provides care to over 9 million beneficiaries requires the full attention of those medical leaders responsible for its success. The complexity of healthcare delivery combined with the need to control the costs of the MHS tends to prioritize the needs of the healthcare delivery system over those of operational units.<sup>55</sup> The Professional Filler System (PROFIS) is an example of the service-member readiness and beneficiary healthcare mission having priority over operational medical units.

#### Medical Support of Joint Forcible Entry Requires Eliminating PROFIS

The Army, Navy and Air Force all have systems in place that attempt to strike a balance between operational needs and maintaining professional competencies. The Navy Health Services Augmentation Program, the Air Forces Expeditionary Medical Support system, and Army PROFIS system provide medical forces when required for military operations.<sup>56</sup> The Army PROFIS system has been well studied and is representative of the problems associated with Service systems. The PROFIS system was developed after the draft was abolished in 1973 so that the Army Medical Department (AMEDD) could simultaneously meet the needs of both the military treatment facilities (hospitals and medical centers) within the U.S. Army Medical Command (MEDCOM), and those medical operational units largely assigned to U.S. Forces Command (FORSCOM).<sup>57</sup> However, because PROFIS personnel are assigned to the military treatment facilities and not the operational units, deployable units are significantly disadvantaged. Operational units do not have the ability to ensure their

PROFIS personnel are medically ready or appropriately trained to mission specific standards, and they often do not know who their PROFIS personnel are due to frequent deployments among PROFIS individuals, which results in the frequent shuffling of personnel among units.<sup>58</sup> This shell game has particularly negatively impacted low-density difficult to recruit and retain specialties such as general surgeons during the ongoing conflict in Iraq and Afghanistan.<sup>59</sup> Additionally, PROFIS personnel are required to complete unit specific training knowing they are only temporarily assigned to that position as they have scheduled deployments and are just passing through as it were.<sup>60</sup>

Doctrinally, PROFIS personnel are required to be informed no less than 30 days before “filling” their PROFIS positions.<sup>61</sup> Even when this policy is not followed, some time is required to get PROFIS personnel to their assigned units, as often they are not assigned geographically proximate to their PROFIS units.<sup>62</sup> This long lead time was noted in the after-action review by the Federal Emergency Management Agency (FEMA) after Hurricane Katrina struck New Orleans in 2005. The 14<sup>th</sup> CSH, mobilized September 5, 2005, arrived far too late to be involved in the initial crisis and ultimately served only to care for “injuries sustained by responders.”<sup>63</sup> Assigning medical personnel to their operational units would allow medical units to more rapidly respond to any operation requiring medical support.

Many argue the PROFIS system is effective and maintains medical personnel in a high state of readiness while making them available for their operational units when required.<sup>64</sup> However, a more critical analysis would reveal that both units and medical personnel suffer under the system. Medical operational units, without their medical experts, are unable to adequately prepare to deliver battlefield healthcare, and medical

personnel are denied the broadening and shaping benefits the operational units could otherwise provide.<sup>65</sup>

The negative impact of PROFIS on the AMEDD's ability to support combat operations can be demonstrated by considering the doctrinal mission of airborne joint forcible entry (AJFE). According to Joint Publication 3-18 Joint Forcible Entry:

. . . joint forcible entry operations seize and hold lodgments against armed opposition. A lodgment is a designated area in a hostile or potentially hostile operational area that, when seized and held, makes the continuous landing of troops and materiel possible and provides maneuver space for subsequent operations (a lodgment may be an airhead, a beachhead, or a combination thereof).<sup>66</sup>

The U.S. Army maintains the XVIII Airborne Corps and the 82<sup>nd</sup> Airborne Division so the Nation can execute AJFE within 18 hours of notification.<sup>67</sup> The surgical support of AJFE is provided by a single "split" airborne forward surgical team (AFST) configured so that half of the team parachutes in with the global response battalion while the remainder of team arrives later with the follow-on forces. The AFST can do approximately 10 damage control surgeries in this configuration before it requires resupply, and has limited blood and holding capacity. In order to conduct ongoing operations, the AFST must both evacuate stabilized wounded to, and ideally have its medical supplies replenished by, a role 3 combat support hospital.<sup>68, 69</sup>

The CSH is the medical center of gravity on any battlefield that generates more than a few casualties. The capabilities of a CSH include command and control, laboratory, pharmacy, basic x-ray, advanced trauma life support, surgery, intensive care unit holding capacity, medical regulating, and satellite communications among others.<sup>70</sup> Also, it can employ a small footprint package that requires approximately 120 personnel.<sup>71</sup> Unfortunately, no CSH located in the continental United States currently

can deploy rapidly enough to support no-notice or short-notice AJFE operations because by policy 30 days are allowed for the PROFIS personnel to arrive.<sup>72</sup>

Some will certainly argue an FST is enough to support the airborne mission, but in so doing they are assuming a best case, low casualty scenario. Airborne operations are traditionally high-risk affairs that generate significant casualties. Operation Market Garden for example generated 1,432 killed, wounded, and missing casualties in the 82<sup>nd</sup> Airborne Division alone.<sup>73</sup> A more contemporary airborne operation example is Operation Just Cause, in which U.S. airborne forces deposed Manuel Noriega. The 23 U.S. servicemen killed and 324 wounded<sup>74</sup> in this operation serves as a reasonable framework when estimating the number of casualties that could be expected when conducting AJFE. Casualties in these numbers would overwhelm a single split AFST, and while the number of Panamanian military and civilian wounded in this operation are not known, U.S. medical personnel under the terms of the Geneva Conventions would also be responsible for their care.<sup>75</sup> Certainly, given the risks when establishing a lodgment using AJFE, it must be assumed forward surgical teams alone, designed only to provide immediate damage control resuscitation and surgery, are not enough and a CSH is required. Unfortunately, the limitation of the PROFIS system virtually ensures U.S. Forces executing joint forcible entry will do so without a CSH for at least several days, which could be catastrophic to light infantry facing a determined enemy.

#### Restore Mission Command by Adopting a Borrowed Manpower Model

A principal problem with the PROFIS system is it significantly affects the ability of unit commanders to practice mission command. Army Doctrine Publication 6-0, "Mission Command," explains the concept of mission command is based on six principals

including “building cohesive teams through mutual trust, creating shared understanding, providing a clear commander’s intent, exercising disciplined initiative, and using mission orders.”<sup>76</sup> ADP 6-0 further explains:

The exercise of mission command is based on mutual trust, shared understanding, and purpose.... Effective commanders understand that their leadership guides the development of teams and helps to establish mutual trust and shared understanding throughout the force. Commanders allocate resources and provide a clear intent that guides subordinates’ actions while promoting freedom of action and initiative. Subordinates, by understanding the commander’s intent and the overall common objective, are then able to adapt to rapidly changing situations and exploit fleeting opportunities. When given sufficient latitude, they can accomplish assigned tasks in a manner that fits the situation... Commanders influence the situation and provide direction, guidance, and resources while synchronizing operations. They encourage subordinates to take bold action, and they accept prudent risks to create opportunity and to seize the initiative.<sup>77</sup>

Mission command can be thought of as a team of teams approach that allows subordinate commands to understand the larger mission and understand their role in successful execution of that mission. Clearly, any team functioning at a high level of proficiency must train as a team, and to do so commanders must have consistent access to the personnel comprising their team.

Few would suggest a professional football team in possession of the best players would perform well without practice. A football team is an example of a team of teams. The entire team consists of the offensive, defensive and special teams. Within each of these teams are position groups each with a specific task to perform. The position groups that make up the offense for example are the quarterback, running backs, offensive line, wide receivers and tight ends. Much is accomplished while practicing through individual and position group drills. However, all the components of the offense must be brought together if the group is going to play well on game day. The best

quarterback must master timing with receivers, and ensure the offensive line is in the correct blocking scheme and so forth. Over time, as the team learns to solve increasingly complex problems, trust is established, intent is understood and the team's objectives become obtainable.<sup>78</sup>

Like a football team, medical units can be considered a team of teams with many position groups. A combat support hospital has command, hospital and logistics teams for example. Most people are familiar enough with medical care to understand the position groups within the hospital include the emergency, surgery, nursing, pharmacy, radiology and laboratory services, and also have a basic understanding of what a hospital does when it is established. However, the mission requires more than just the hospital team to meet its objectives.

The logistics team must ensure all classes of supply are available prior to deployment and must have a plan to deploy including load plans for air, sea and land deployment. Once on the battlefield the hospital must be mobile and the personnel assigned to the hospital must build it. Power and water supplies must be established while tents are being assembled, possibly under combat conditions while receiving casualties.<sup>79</sup> Obviously, the complexity of delivering battlefield healthcare quickly exceeds that of a football team, but the analogy holds.

Medical units delivering healthcare on a battlefield must be proficient individually and collectively to successfully execute the multitude of tasks their mission requires, and they must work together as team to develop trust and shared understanding.<sup>80</sup> The principles of mission command, if followed, give commanders the opportunity to develop their teams prior to deployment, but it cannot be successfully implemented if most of the

hospital team is not available. Fortunately, there is an alternative to PROFIS often referred to as the borrowed manpower model (BMM).

The BMM assigns medical personnel to their operational units and then borrows them back to MTFs to sustain their professional competencies. The 212th CSH and other medical units forward deployed in Europe have for decades successfully used this model.<sup>81</sup> In the case of the 212<sup>th</sup> CSH, medical specialists such as physicians, nurses and specialty staff typically work at Landstuhl Regional Medical Center while being assigned to the 212<sup>th</sup> CSH. These personnel still spend the vast majority of their time working in the hospital. However, they train with the CSH three days a month and also attend two field training exercises each year.<sup>82</sup> This approach effectively restores mission command to the unit commander who has the ability and authority to ensure readiness of all assigned personnel continuously. Importantly, and unlike PROFIS burdened units, the 212<sup>th</sup> CSH personnel can muster quickly for short notice mission requirements. Historically, the 212<sup>th</sup> CSH has initiated a N-hour<sup>83</sup> sequence drill quarterly, demonstrating the ability to load out a 12-bed hospital capable of providing emergency services, intensive care, surgery, pharmacy, laboratory, command and control, and medical regulating capabilities able to deploy within as little as six hours of notification.<sup>84</sup>

Other significant advantages of the BMM include better unit cohesiveness prior to mission execution, and with their medical subject matter experts available, non-medical personnel learn what the medical staff requires to be effective, and importantly the medical staff learns how to succeed in a field and operational environment.<sup>85</sup> Also under this model, using mission command, not only can the commander ensure personnel are

trained to appropriate standards, in the event of non-combat contingency operations, the commander can assemble the required personnel, equip and deploy them while providing support throughout the deployment. An example of this is the 212<sup>th</sup> CSH's rapid deployment to Pakistan in the aftermath of devastating earthquakes there in 2004.<sup>86</sup> Lieutenant General (Retired) Mark Hertling, then Commanding General, U.S. Army Europe, relayed the following anecdote to the members of the 212<sup>th</sup> CSH while observing their ability to muster and deploy the hospital within 72 hours of notification in April 2013.

I was the G-3 of U.S. Army European Command and there was a phone call in the middle of the night from the Pentagon. The voice on the other end of the line said, Mark, how long for you to get that hospital of yours to Pakistan? This was right after the earthquakes there in 2004. I said, I'm not sure sir, but I think 72 hours. The voice from the Pentagon said . . . they are telling us 30 days here. I said, I'll check and get back to you. 72 hours later this hospital was moving to Pakistan.<sup>87</sup>

The soldiers assigned to the 212<sup>th</sup> CSH maintained the ability to rapidly muster, load-out, and deploy because their commander established that capability as a priority, and the unit could meet the commander's intent because it had its personnel assigned, and was not constrained by the limitations of the PROFIS system.<sup>88</sup>

The MHS cannot support the spectrum of military operations required while it continues to rely on PROFIS. Adopting a BMM that assigns medical personnel to operational units restores mission command and enhances medical readiness by enabling an operational medical force capable of supporting short-notice combat and contingency operations. However, eliminating PROFIS is only the first step. If the MHS is to provide appropriate timely battlefield healthcare in the future, significant restructuring of the MHS organization will be required.

## No Single Command is Responsible for Combat Casualty Care

The organization of the MHS is such that no single entity is responsible or accountable for trauma care on the battlefield. Recently, the Committee on Military Trauma Care's Learning Health System and its Translation to the Civilian Sector released a report entitled "A National Trauma Care System: Integrating Military and Civilian Systems to Achieve Zero Preventable Deaths After Injury."<sup>89</sup> The committee observed that "no single point of accountability existed for the military medical readiness mission."<sup>90</sup> The organizational structure of the MHS includes the Assistant Secretary of Defense for Health Affairs (ASD(HA)), the Defense Health Agency (DHA) and the respective surgeons general of the Services. The ASD (HA) sets policy, administers the budget, and has oversight of the MHS while the DHA seeks to reduce costs and improve the efficiency of the MHS, and serves as a combat support agency. As a combat support agency DHA is responsible for ensuring a medical operational force is available to the combatant commands. The surgeons general of the Army and the Navy administer their portions of the MHS and have Title 10 authority<sup>91</sup> over medical personnel assigned to their medical departments or commands.<sup>92</sup> The Air Force surgeon general does not have Title X authority and serves only as an advisor to the Chief of Staff of the Air Force, while wing and squadron commanders have responsibility for medical assets.<sup>93</sup> Medical forces assigned to geographic or functional combatant commands fall under the authority of those commands, and not the medical commands. Further, those non-medical commands are responsible for unit budgets, equipment and ensuring personnel are appropriately trained.<sup>94</sup> The committee concluded:

. . . complex, overlapping and conflicting priorities among combatant commands, Joint Surgeon, Secretary of Defense, Medical Departments and line commanders make it extremely difficult to establish reliable combat casualty care processes and systems... and to establish a single point of accountability.<sup>95</sup>

Similarly, the Military Compensation and Retirement Modernization Commission in recommending a 4-star command to ensure medical readiness made the following observations:

DoD has no centralized oversight of battlefield health care or the medical readiness mission to ensure those tools are implemented and used to best support combat casualty care. To ensure the Nation is not left unprepared at the start of the next war, the military medical lessons learned during war must be preserved and improved upon whenever possible. The military medical force should be provided every opportunity to access the best possible training environments. Accordingly, DoD needs to implement a new strategic framework to maintain medical readiness, new tools with which to achieve this readiness, and new oversight to ensure Service members receive the best care possible during the next conflict.<sup>96</sup>

The Commission also noted the medical services do not function as a joint force, and that the Services each have their own process for determining force structure and force capabilities, and their own definition of readiness. The committee concluded the DOD medical departments would be better prepared for future conflict if they were integrated as a joint force.<sup>97</sup>

It seems clear overly complex chains of authority and responsibility effectively hold no one accountable for battlefield medical outcomes. Further, the lack of an integrated joint medical force results in inefficient organization and utilization of medical assets. The Armed Services medical departments require a Joint Forces Medical Command, separate from DHA, which is responsible and accountable for battlefield medical readiness.

## Recent Battlefield Medical Success Overstated

A reasonable argument against making any dramatic change to the organizational structure of the MHS was the reported success of battlefield trauma outcomes during the Afghanistan and Iraq Wars. This success was often reported as a decreased died of wounds rate (%DOW) and case fatality rate (CFR) compared to previous conflicts. Wounded service members who die of wounds do so after arriving at a MTF and the %DOW is usually defined as the number of all deaths that occur after reaching an MTF divided by the wounded in action less those with minor wounds able to return to duty within 72 hours. Since almost all seriously wounded patients have been taken to a MTF with surgical capability since the Vietnam War, it is can also be considered a surrogate measure of surgical outcomes on the battlefield.<sup>98</sup>

The CFR measures overall battlefield lethality in all those that are wounded by comparing all deaths to all wounded<sup>99</sup> while the killed in action percentage (%KIA) is the number of combat deaths that occur before reaching an MTF. The CFR and %KIA can be improved by point of injury care and timely evacuation, that is, delivering soldiers alive to a surgical capability.<sup>100</sup> One recent analysis concluded the %DOW improved from 3.3% in Vietnam to 2.4% in Afghanistan and Iraq, the CFR improved from 23% in Vietnam to 9.3% in Afghanistan and Iraq, and the %KIA improved from 21% in Vietnam to 7.1% in Afghanistan and Iraq.<sup>101</sup> However, the success attributed to medical forces, especially surgical outcomes, was overstated. As early as 2005, researchers at the United States Army Institute of Surgical Research (USAISR) noted soldiers were dying of wounds at rates that exceeded the Vietnam War and the percent died of wounds (%DOW) did not improve as was hoped in Afghanistan and Iraq.<sup>102</sup>

Another popular misconception was that the CFR improved dramatically since the Vietnam War. However, a recent Congressional Budget Office (CBO) paper reported the difference in survival between Vietnam and Iraq was about 4%. The author of that paper reported:

... several earlier papers on the subject were problematic because they compared the survival rate among all wounded soldiers in Iraq to the survival rates among only the more-seriously wounded soldiers (those who were hospitalized for treatment of their wounds) in Vietnam. That comparison tends to exaggerate the improvement in survival between the two conflicts because the more-seriously wounded in Vietnam were less likely to survive.<sup>103</sup>

The failure to understand that roughly 50% of all those wounded in Vietnam were not included in the mortality statistics from that conflict led to confusion when comparing outcomes between the Vietnam War and the Afghanistan and Iraq Wars. This occurred because, in Vietnam, the wounded in action category was further subdivided into those “carded for record only” and “admitted to non-hospital medical treatment facility or quarters.”<sup>104</sup> Wounded soldiers in these categories were not included in the wounded in action numbers used in the died of wounds calculation and totaled 150,341 of the 308,943 personnel wounded during the Vietnam War.<sup>105</sup>

Mathematically, this decreased the number of less severely injured patients included in the denominator of the Vietnam casualty statistic calculations thus complicating the comparison of CFR, %DOW and %KIA between Vietnam and recent conflicts, which did not subtract those with minor wounds. This occurred because wounded service members were rapidly evacuated from Afghanistan and Iraq after admission to a role 3 hospital, even for relatively minor wounds that would not have met criteria for evacuation in past conflicts, which eliminated the wounded subcategories of carded for record only and admitted to non-hospital medical treatment facility or

quarters in Afghanistan and Iraq. Therefore, when using Defense Casualty Analysis System (DCAS) statistical data, the denominator in the %DOW equation for the Afghanistan and Iraq Wars was inflated by inclusion of patients with minor injuries when compared to the Vietnam War. This series of events resulted in an artificial reduction in the Afghanistan and Iraq %DOW calculation, CFR and %KIA. Understanding this allows for a proper comparison between surgical outcomes in Afghanistan and Iraq and Vietnam.

#### Battlefield Surgical Outcomes May Be Worse than Vietnam

Recent analysis conducted at the USAISR using data from the DCAS analysis System, U.S. Military Casualty Statistics Operation, Central Command, and the Department of Defense Trauma Registry accounted for the minor wounds or the return to duty population and found the percent of wounded who died from their wounds was 5.3% from 2001 to 2014 in Afghanistan and Iraq combined, and that the %DOW was statistically significantly higher than Vietnam ( $p>0.001$ ).<sup>106, 107</sup> They also found the %DOW worsened over time in Iraq ( $p>0.001$ ), while also concluding the CFR improved from 13.3% in Vietnam to 9.4% in Afghanistan and Iraq, and the %KIA improved from 20.5% in Vietnam to 14.1% in Afghanistan and Iraq, which corresponds to the CBO survival data cited above.<sup>108</sup>

The decreases in the CFR and %KIA overtime have been attributed to the success of battlefield medical care, but the CFR does not only assess battlefield medical outcomes.<sup>109</sup> Other non-medical factors such as body armor, vehicle armor and the capability of the enemy's weapons also affect the %KIA and the CFR. The %KIA can be considered a measure of weapons lethality and the CFR, which is directly

related to the %KIA, can be thought of as a measure of overall battlefield lethality.<sup>110</sup>

More clearly, the %KIA will increase when facing a near-peer enemy in possession of highly lethal weapons systems such as air-to-ground munitions, artillery, and other advanced weaponry.<sup>111</sup> It is axiomatic that as battlefield weapons' lethality decreases so will the %KIA and subsequently the CFR.

Consider the case of the USS Arizona on December 7, 1941. The battleship was virtually destroyed when it was struck by a bomb that detonated the ship's forward magazines resulting in an approximately 1-kiloton explosion that left 1,177 dead, and 38 wounded.<sup>112</sup> The CFR for the Arizona crew was 96.9%. In this example, medical care could only have an effect on 3.1% of the casualty population. While an extreme example, it does point out the limitations medical care can have on affecting the CFR as a battlefield becomes increasingly lethal based on enemy weapon effectiveness.

Therefore, the CFR should be considered a composite measure influenced by numerous variables making it a poor measure of medical care on the battlefield. Understanding then that the CFR is a measure of overall battlefield lethality, and that %DOW is a measure of battlefield surgical outcomes, senior leaders should be extremely alarmed that on an overall less lethal battlefield, recent surgical outcomes appear to have worsened as compared to surgical outcomes achieved during the Vietnam War.<sup>113</sup>

The failure of senior military leaders to recognize surgical outcomes on the battlefield had worsened since the last large-scale long-term conflict conducted by U.S. forces serves as warning. The provision of combat casualty care on the battlefield is complex, and requires an elite medical force to be successful in austere environments.

Medical readiness, specifically the training of those personnel who deliver trauma capabilities, requires a command hierarchy responsible and accountable for battlefield healthcare with authority to ensure medical forces are prepared to support combat operations.

### A Joint Force Medical Command is Required

The thesis of this essay, based on the propensity of the MHS to prioritize beneficiary care over the operational medical mission, the complexity and cost of the healthcare delivery portion of the MHS, the inability of operational medical units to provide timely support to JFE and other contingency operations, the lack of effective mission command due to PROFIS, the evidence of possibly worsening surgical outcomes compared to previous conflicts, and the lack of a single source of accountability for battlefield healthcare and outcomes, is that leaders responsible for the healthcare delivery cannot also be responsible for medical operational readiness and that a Joint Forces Medical Command is required.

The arguments for a unified medical command are not new. At least 15 reports have been generated since the end of WWII considering the implementation of a unified medical command.<sup>114</sup> All but three of those reports recommended some type of centralized medical command.<sup>115</sup> The arguments against a unified medical command have been varied and include it is not needed, implementation of such an organizational structure could be disruptive and there is no evidence showing it would improve efficiency.<sup>116</sup> The reports supporting reorganization were generally generated in the context of cost savings and more efficient beneficiary care with a significant argument against implementation being that the care delivered on the battlefield was excellent

and could be negatively impacted.<sup>117</sup> The presented evidence of worsening surgical outcomes in Afghanistan and Iraq requires that the benefits of a unified command be reconsidered with the objective of improving combat casualty care.

Another argument that has been made against a unified medical command is any medical command system that separates military treatment facilities from operational units could be difficult to coordinate.<sup>118</sup> This argument has been motivated to some degree by the assumption there would be negative cost effects to the healthcare delivery component of the MHS if operational medical units were to have medical professionals assigned permanently.<sup>119</sup> However the BMM, used appropriately, largely mitigates these concerns as most medical professionals assigned to operational units would still spend most of their time working in military treatment facilities.

The culture and parochialism of the Army, Navy, and Air Force has negatively impacted the ability to create a unified medical command.<sup>120</sup> Again, based on the increasing costs for the MHS as a percentage of the DOD budget in 2006, the Army Surgeon General, LTG Kevin Kiley and the Navy Surgeon General, Vice Admiral Donald Arthur proposed a unified medical command led by a 4-star flag officer modeled after SOCOM and responsible for both operational medicine and beneficiary care.<sup>121</sup> Ultimately the initiative failed due to strong objections of consecutive Air Force surgeons general on the grounds that the Air Force mission was so unique that separate staffs and resources were justified.<sup>122</sup> According to then Air Force Surgeon General Lt. Gen. James G. Roudebush, the unique qualities of the Air Force were:

...[the Air Force] has its medical support intertwined and woven into the mission and the line of the Air Force and is something we feel very strongly contributes to our ability to support the joint war fight.<sup>123</sup>

This explanation, though lacking specifics, expressed a concern by some that a unified medical command could negatively impact certain aspects of medical care that are thought to be service specific.<sup>124</sup> However, there would be little risk to service culture and service specific requirements if the surgeons general retained, or in the case of the Air Force surgeon general, were given Title 10 authority over their medical departments while being task organized under a JFMC.

This course of action was considered in a RAND study published in 2001 that evaluated the service specific impact of a joint medical command while exploring several options for MHS reorganization.<sup>125</sup> One option considered a separate TRICARE component command and a medical readiness component command subordinate to a joint medical command. The report characterized the TRICARE command this way:

The TRICARE component command would be structured according to a civilian-like model, with regional commands overseeing health care delivered by the MTFs and civilian providers in their assigned geographic areas.... Responsibility for health matters at an installation and for the health of all assigned military personnel would continue to be the responsibility of the MTF commander.<sup>126</sup>

The roles of the Army, Navy, and Air Force surgeons general would then shift to medical force readiness.

...the Surgeons General would most likely oversee medical readiness in their services, but they would no longer have authority over the MTFs. In their capacity as chief medical officer for their respective service, they would monitor the performance of the MTFs in maintaining the health of active-duty personnel, providing care to families, and supporting readiness training and deployment. The resources needed for readiness activities would be identified and allocated to the readiness component. This would include personnel assigned to deployable units and preferably an allotment for personnel assigned to MTFs but available to the deployable units when needed.<sup>127</sup>

The proposed joint medical command considered the service specific medical missions of the Services and the role of medical personnel organic to operational units and recommended the following course of action as a solution.

Medical care for deployed personnel may be provided by medical specialists who are either assigned to operational units or to medical units that are attached to operational units. Alternatively, patients may be evacuated to medical units that operate more independently of the operational forces. Examples of the former are medics in Army and Marine combat units, battalion aid stations, flight surgeons who remain with squadrons in the Air Force, or medical personnel assigned the Navy ships. Examples of the latter are field or fleet hospitals and the Navy's hospital ships. If a joint medical command were created, it would include standalone operational medical units and exclude personnel assigned to operational units. More generally, medical activities determined to be organic to the supported operational unit would most likely remain outside the medical command.<sup>128</sup>

Removing responsibility for military treatment facilities from the surgeons general at the time was considered radical. However, the 2017 National Defense Authorization Act establishes DHA as responsible for all military treatment facilities and directs organization of an IHS essentially creating a TRICARE Component Command. A reasonable subsequent course of action would create a separate joint command to be responsible for operational medicine. Service concerns over cultural and mission specific requirements should be alleviated by retaining the surgeons general service specific authorities.

#### Separate Commands for Beneficiary Care and Operational Medicine

The 2017 National Defense Authorization Act established the DHA as responsible for all military treatment facilities. Managing the IHS is a significant challenge and DHA's role should be limited to that mission. The president, the Congress, the Secretary of Defense and the Joint Chiefs of Staff should designate a Joint Forces Medical Command, which would have oversight of the Service medical

departments and be responsible for delivering effective battlefield healthcare and ensuring appropriate care of the wounded. The JFMC could be structured as a functional combatant command (FCC) or subordinate to a unified medical command designated a FCC. Joint Publication 1, "Doctrine for the Armed Forces of the United States" defines a joint functional command this way,

FCCs [functional combatant commands] provide support to and may be supported by GCCs [geographical combatant commands] and other FCCs as directed by higher authority. FCCs are responsible for a large functional area requiring single responsibility for effective coordination of the operations therein. These responsibilities are normally global in nature.<sup>129</sup>

The delivery of healthcare and the science and art of practicing medicine when combined with the military requirements to bring these capabilities to austere and remote locations and under adverse conditions ranging from combat to humanitarian operations, meets the definition of a large functional area with responsibilities global in nature. A JFMC will provide the organizational structure required to effectively and efficiently provide medical forces on future battlefields, and to support non-battlefield contingency operations. It will also provide coordination of Service unique capabilities in the future.

There was no coordinated joint plan for the provision of medical care when the United States entered Afghanistan in 2001. The Joint Trauma System (JTS) was established when a group of primarily trauma surgeons from the Air Force and Army, working at the USAISR approached CENTCOM with a plan to develop a theater trauma system and were subsequently empowered to do so. However, the JTS did not have any authority to enact policy or hold commanders and units responsible for outcomes.

Participation in quality improvement processes was voluntary, and many deploying medical units and personnel were unaware of the joint trauma registry or the practice guidelines that resulted from analysis of its data.<sup>130</sup> Often medical personnel would be educated on practice guidelines after arriving in theater. However, the support of CENTCOM was instrumental in creating conditions that allowed trauma system improvements, which included formalizing the JTS Surgeon as part of CENTCOM. This senior trauma expert, positioned in theater, could recognize and make system improvements and ensure data was being collected for analysis.<sup>131</sup> With CENTCOM's help, the bottom-up efforts of a few subject matter experts resulted in pockets of excellence among a coalition of willing medical experts who advanced the science of combat casualty care significantly across the spectrum of care from point of injury to rehabilitative care provided at MHS tertiary care centers.<sup>132</sup>

However, when U.S. Forces returned to Iraq in 2014, CENTCOM declined all requests to fill the JTS Surgeon position.<sup>133</sup> As a result, the medical system in Iraq, Kuwait, and Afghanistan have lacked coordinated performance improvement resulting in the inefficient use of medical resources, and the inability of trauma subject matter experts to affect change.<sup>134</sup> A recent analysis of the battlefield in Iraq suggested that almost every medical lesson learned from 8 years of fighting in Iraq had been lost in less than 3 years.<sup>135</sup> Congress, at least, recognized the value of the Joint Trauma System, and the 2017 National Defense Authorization Act (NDAA) directed JTS to be the reference body for all trauma care provided by the MHS, to establish standards of care, coordinate the translation of research and to coordinate lessons learned.<sup>136</sup> However, moving JTS to DHA as a reference body does not enhance its authority and

does not solve the problem of a lack of accountability for medical readiness as it pertains to medical units and personnel.

The Military Compensation and Retirement Modernization Commission were unequivocal in recommending a single point of accountability for medical readiness.

The critical nature of joint readiness, including the essential medical readiness examples above, make it clear that four-star leadership is needed to sustain dedicated focus on the joint readiness of the force. Ensuring that the hard-fought progress achieved during the past decade in the delivery of combat casualty care on the battlefield, the global capability for evacuating casualties and providing critical care while in transit, and the research that has led to advances in wound care and hemorrhage control, requires strong oversight at the highest level.<sup>137</sup>

A feasible course of action would create a 3-star JFMC with the Service surgeons general task organized under this command and with Title 10 authority of their respective medical departments. As DHA assumes responsibility for the IHS, a natural consequence would be to shift responsibility of the surgeons general to the operational medical readiness mission. This in turn will establish clear lines of authority with each surgeon general reporting to the JFMC commander, and their respective Service Chiefs with the JFMC commander reporting directly to the Chairman, Joint Chiefs of Staff or a designated subordinate (See figure 1).

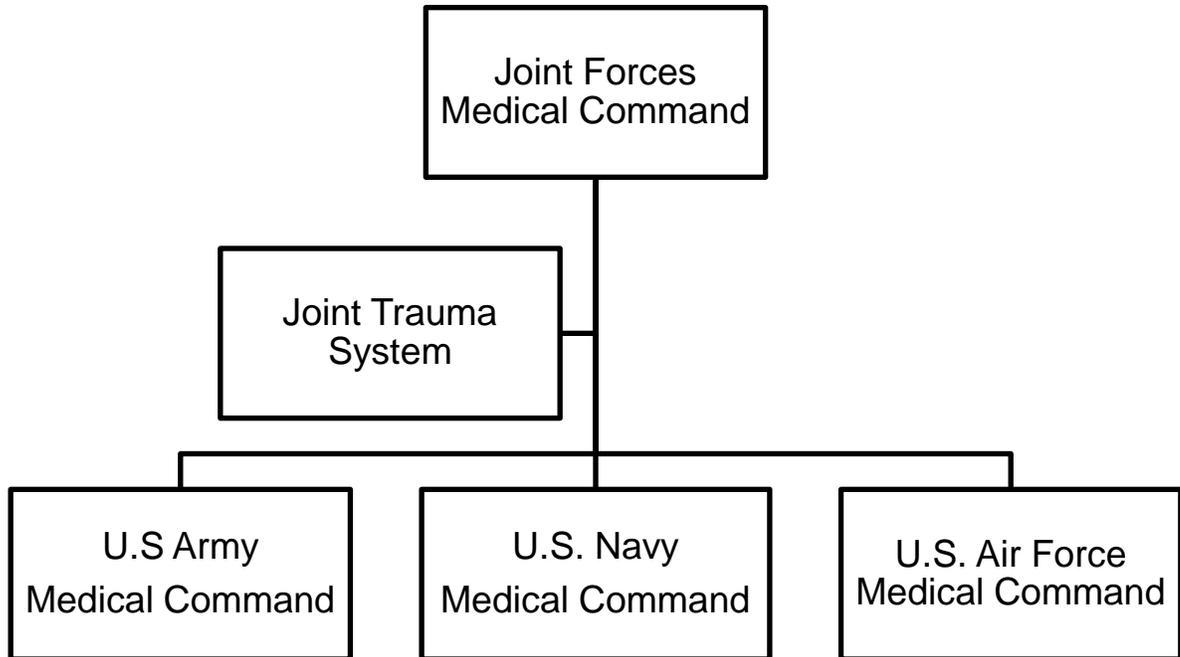


Figure 1. A possible task organization of a Joint Force Medical Command.

The proposed JFMC could be constructed as a medical functional combatant command while the DHA would serve as a combat support agency primarily responsible for providing the IHS as a training platform for uniformed medical personnel, and supporting medical readiness of deployable forces. Alternatively, both DHA and the JFMC could be subordinate to a unified medical combatant command. In either case, The JTS would be a staff section within the JFMC and pursuant to section 708 of the 2017 NDAA assume responsibility for the Joint Trauma Education and Training Directorate in addition to serving as the previously mentioned trauma reference body.<sup>138</sup> The JFMC would be responsible for ensuring a highly trained medical force is immediately available to provide health service support across the mission spectrum ranging from combat casualty care to humanitarian operations. This organizational structure would facilitate the elimination of redundancy of personnel, equipment and units between the Services as it pertains to the operational medical force, and ensure

personnel and medical capability requirements are made based on the needs of the joint force.

In the realm of training, the JFMC would provide a pool of borrowed manpower to the DHA and the IHS contingent on the IHS' ability to provide the acuity and volume of patients required to sustain readiness. For those medical specialists the IHS cannot sustain, the JFMC would be responsible to establish relationships with civilian institutions possessing the required workload. Additionally, the JFMC would establish a command inspection system capable of assessing the readiness status of all medical personnel and units across the services to ensure medical personnel operating near the point of injury were trained to tactical combat casualty care standards. Finally, the JFMC, coordinating with the designated medical training and doctrine command, would develop joint doctrine for the assignment of a joint medical component commander responsible to the ground combatant commander for the implementation of an effective integrated battlefield and trauma healthcare system.

Creating a JFMC separate from DHA would create proponents for both medical missions, and create a command solely responsible for meeting operational medical requirements. However, absent a higher unifying command, it would leave the separate authorities of both the DHA and JFMC in an adversarial relationship competing for resources without a command source for resolution of conflict. Any re-organization of the medical Services therefore must unify the medical missions at the functional combatant command level.

One course of action would be to place DHA along with the surgeon generals and their respective medical commands subordinate to the proposed JFMC (figure 2).

This organizational approach would in theory subordinate the beneficiary mission and soldier medical readiness mission to the operational medical mission with DHA in a supporting (combat support agency) role. However, in reality, it is more likely the size and scope of the IHS would tend to overwhelm the JFMC command and staff with its massive scale leaving the operational medical force to once again fend for itself.

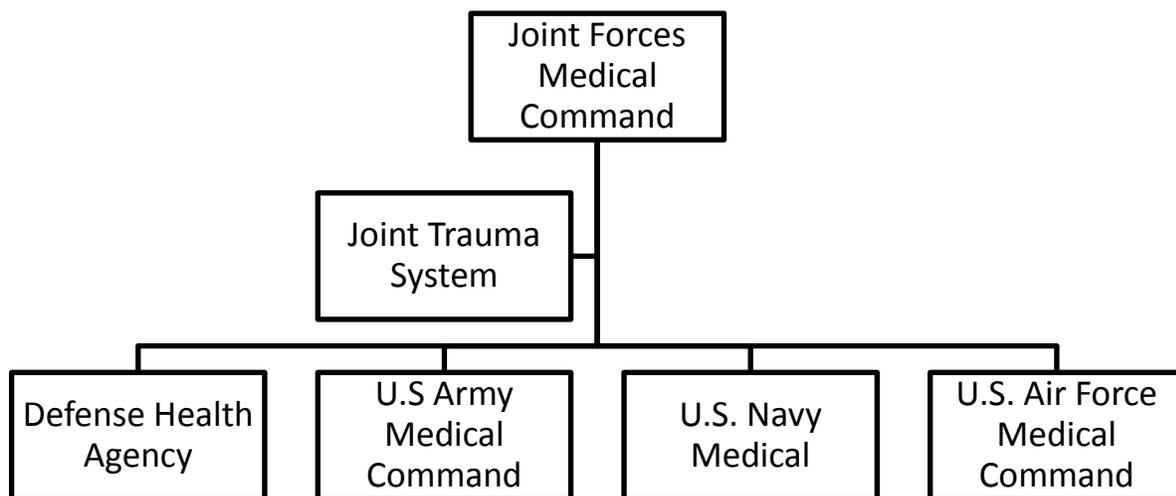


Figure 2. This organizational structure would make the JFMC a functional combatant command with DHA subordinate to the JFMC.

A better solution is to create an overall unified medical command that would serve as the medical functional combatant command, and have responsibility for both the DHA and the JFMC. This organizational structure would create commands responsible for not only DHA and all medical operational forces, but also the medical material research and training and doctrine commands (figure 3). This command structure would fully align with the Military Compensation and Retirement Modernization Commission's recommendations to create a 4-star medical command that would

“actively participate in the planning, programming, budget and execution process.”<sup>139</sup>

While this paper principal argument has been a JFMC is required to fix combat casualty care, creating a unified medical combatant command a level above the JFMC would acknowledge the importance of the DHA and the beneficiary mission and the medical material research and training and doctrine commands. All commands within this organizational structure would be joint except for the Service Medical Commands.

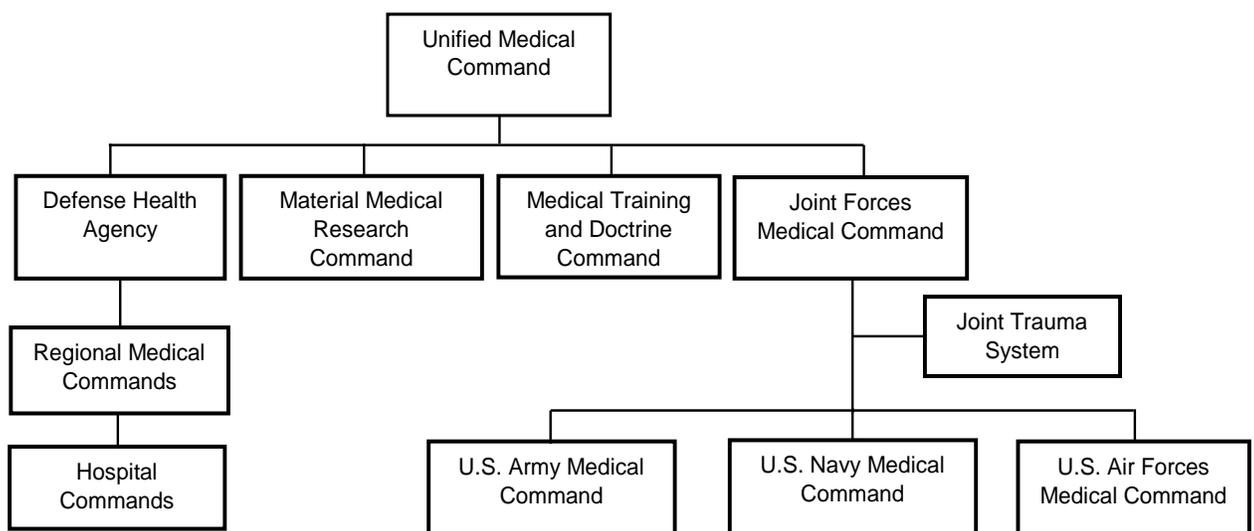


Figure 3. Proposed organizational structure for a unified medical functional combatant command.

### Conclusion

The U.S. military medical departments face a crisis. For the first time in our Nation’s history more soldiers died after reaching a battlefield military treatment facility than in the previous conflict.<sup>140</sup> While some may try to explain away this conclusion, the causes for this decline are not a mystery. As early as 2005, researchers at the U.S. Army Institute of Surgical Research understood there was a problem.<sup>141</sup> A small group of subject matter experts there did all they could to build an effective trauma system in

Afghanistan and Iraq, and while their efforts may have paid dividends in Afghanistan, they were likely implemented too late to significantly impact the care provided in Iraq. Without question improvements in tourniquets and advances in the science of blood transfusion saved lives.<sup>142</sup> But, these advancements occurred in pockets of excellence and were not uniformly practiced, and the %DOW never improved. In fact, %DOW worsened over time in Iraq.<sup>143</sup> In the face of this reality, the standard stopped being the %DOW and became the CFR, which is at least as likely to measure the effects of tactics, body armor and vehicle armor as anything done by medical personnel. The best that can be said about the CFR is that medical interventions at the point of injury may have contributed to the 4% improvement since the Vietnam War.

The problems are obvious and they start with the MHS. The MHS cannot provide the types of injured patients required to train and maintain the trauma specialists required for combat operations. In a sense, the management of trauma patients is simple. About 10 out of 100 soldiers wounded on the battlefield are bleeding to death.<sup>144</sup> If they get good enough care at the point of injury, and if they make it alive to a surgical capability, they have a chance, if the surgeons and their teams are good enough. Our trauma teams will be good enough if they are exposed to the injuries that approximate those on the battlefield, and in volumes that result in proficiency.

Further, leaders in the MHS cannot be expected to both administer the IHS, and be responsible for ensuring medical personnel and units can perform their operational missions. This responsibility should be restored to commanders responsible for those missions, in part, by eliminating PROFIS. Most importantly of all, there must be a

command system in place that is accountable for battlefield patient outcomes. Joint Publication 1, Doctrine for the Armed Forces of the United States declares:

Command is central to all military action, and unity of command is central to unity of effort. Inherent in command is the authority that a military commander lawfully exercises over subordinates including authority to assign missions and accountability for their successful completion. Although commanders may delegate authority to accomplish missions, they may not absolve themselves of the responsibility for the attainment of these missions.<sup>145</sup>

It is remarkable that every commission, committee and agency that seriously evaluated the battlefield trauma system cannot identify who is ultimately responsible for the outcomes achieved by the trauma system. Joint Publication 5.0 Joint Operational Planning offers this additional fundamental principal as advice:

While CCDRs and national leaders may have a clear strategic perspective of the problem, operational-level commanders and subordinate leaders often have a better understanding of specific circumstances that comprise the operational situation.<sup>146</sup>

The most and possibly only effective means to ensure our service men and women receive the care they expect and deserve on the battlefield is to create a command responsible for ensuring they have the best possible chance to survive if they are wounded. The creation of a Joint Forces Medical Command would optimize combat casualty care in part by empowering the subject matter experts who understand the problems and can start to implement solutions that will result in a Joint Medical Force ready for the next battlefield. Our wounded Soldiers, Seaman, Marines and Airmen deserve a command solely dedicated to their survival on the battlefield.

## Endnotes

<sup>1</sup> Final Report to the Secretary of Defense Military Health System Review,” August 2013, 1, linked from The Defense Health Agency Homepage at “Secretary of Defense Military Health

System Review Final Report,” <https://health.mil/Military-Health-Topics/Access-Cost-Quality-and-Safety/MHS-Review> (accessed April 12, 2017).

<sup>2</sup> Melony E. Sorbero et al, eds., *Improving the Deployment of Army Health Care Professionals: An Evaluation of PROFIS*. (Arlington, VA: Rand, 2013), Chapter 2 [report online]; available from [www.rand.org](http://www.rand.org); (accessed May 4, 2017).

<sup>3</sup> Ibid.

<sup>4</sup> Ibid.

<sup>5</sup> Ibid.

<sup>6</sup> Sara Morse et al, eds., “ACS achieves notable legislative victories in 2016,” *Bulletin of the American College of Surgeons*, Chicago, January 1, 2017, 1-2.

<sup>7</sup> The integrated health system (IHS) will be used throughout this paper to describe the direct healthcare benefit comprised of military treatment facilities and the indirect healthcare component of TRICARE which consists of care purchased from civilian healthcare industry.

<sup>8</sup> *National Defense Authorization Act for Fiscal Year 2017*, 31, Conference Report, S. 2943, 114<sup>th</sup> Congress., 2<sup>nd</sup> sess, November 30, 2016, 211. <http://docs.house.gov/billsthisweek/20161128/CRPT-114HRPT-S2943.pdf> (accessed April 29, 2017).

<sup>9</sup> Ibid.

<sup>10</sup> Final Report to the Secretary of Defense Military Health System Review, 19-22.

<sup>11</sup> Ibid.

<sup>12</sup> Ibid.

<sup>13</sup> Ibid.

<sup>14</sup> Ibid., 19.

<sup>15</sup> Ibid.

<sup>16</sup> Ibid.

<sup>17</sup> Ibid., 16.

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<sup>68</sup> Personal experience of commanding 782<sup>nd</sup> and 541<sup>st</sup> Forward Surgical Teams for 4 years including 15 months in Afghanistan: 2005-2009.

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<sup>78</sup> Personal experience playing college football at Idaho State University 1983-1987.

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<sup>82</sup> Personal experience as Deputy Commander Clinical Services 212<sup>th</sup> CSH for 2 years 2011-2013.

<sup>83</sup> An N-Hour sequence is pre-programmed time sensitive plan that ensures units perform the tasks required prior to deployment.

<sup>84</sup> Personal experience as Deputy Commander Clinical Services 212<sup>th</sup> CSH for 2 years 2011-2013.

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<sup>106</sup> Shawn C. Nessen, "Why We Need to Draft Trauma Surgeons," briefing slides.

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