The Army Medical Department and Full Spectrum Operations

A Monograph
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Abstract

THE ARMY MEDICAL DEPARTMENT AND FULL SPECTRUM OPERATIONS by MAJOR Paula C. Lodi, ARMY, 50 pages.

Army operational doctrine addresses the range of full spectrum operations across the spectrum of conflict. Full spectrum operations include offensive, defensive, stability, and support operations. Missions in any environment require Army forces who are prepared to conduct any combination of these operations. The purpose of this monograph is to examine the Army Medical Department's ability to support full spectrum operations in accordance with current doctrine, given the assessment of current and future operational environment. The characteristics of mobility and flexibility are used as evaluation criteria.

It is the author's assertion that the AMEDD's force structure does not fully support full spectrum operations with Level III hospital capability. The Medical Reengineering Initiative (MRI) Combat Support Hospital (CSH) does not have adequate mobility or flexibility to support small-scale contingencies below the Corps level. The frequency of AMEDD deployments on this scale since the end of the Cold War coupled with predictions of the *National Security Strategy* and the *National Military Strategy* regarding the nature of the future operational environment makes this research extremely relevant.

Analysis of post-Cold War deployments from the perspective of the medical mission requirements and actual forces deployed to accomplish these missions provides concrete data regarding AMEDD force structure and its current capability to support full spectrum operations. Deployments analyzed include Operations Desert Storm (Iraq), Provide Comfort (Iraq), Provide Promise (Balkans), Restore Hope (Somalia), Allied Force/Task Force Hawk (Albania) and Enduring Freedom (Afghanistan). These operations provide a variety of missions and circumstances that assess the AMEDD's ability to support full spectrum operations using the evaluation criteria of mobility and flexibility. The case studies illustrate that the AMEDD has successfully supported recent operations, to include small-scale contingency operations. The repeated method of doing so using fragmented hospital units and non-doctrinal use of units such as the Forward Surgical Team, however, indicate the force structure is not optimized for this type operation.

The evolution of Joint and Army operational and combat health support (CHS) doctrine illustrates threads of continuity (and discontinuity) between national, joint strategies and actual execution of deployments. The analysis of AMEDD doctrine indicates doctrine development is consistent with the national and joint strategies and visions. The synchronization between the strategies and doctrine further identify the importance of a force structure that can support full spectrum operations.

Current AMEDD initiatives indicate the AMEDD's recognition of a need for a more mobile, flexible hospital increment to support full spectrum operations. It is the author's conclusion and subsequent recommendation that any of the MASH, FASH, or FSH structures would provide adequate mobility and flexibility to meet the needs of full spectrum operations, particularly small-scale contingency operations below the Corps level. The FASH and FSH represent organizational concepts developed with the nature of both the current and future operational environment in mind. These concepts appropriately seek modularity that will enhance the AMEDD's ability to support full spectrum operations. There are minor distinctions between the FASH and FSH concepts. Either concept advances the AMEDD's ability to support full spectrum operations in terms of mobility and flexibility. While the CSH remains a viable organization to support the MTW end of full spectrum operations, the FASH and FSH concepts provide an alternative to ad-hoc organizations for Level III hospital support for small-scale contingency operations below the corps level.

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CHAPTER ONE

INTRODUCTION

The military is routinely employed to shape the international security environment in support of the objectives of the *National Security Strategy* and the *National Military Strategy*. Recent shifts in these two documents may influence the development of Army doctrine and force structure. Army operational doctrine addresses the range of full spectrum operations across the spectrum of conflict. Full spectrum operations include offensive, defensive, stability, and support operations.[1] Missions in any environment require Army forces who are prepared to conduct any combination of these operations. This monograph will examine the Army Medical Department's ability to support full spectrum operations in accordance with current doctrine, given the assessment of current and future operational environment. The environment described by these documents and the resulting doctrine challenge the AMEDD's force structure in terms of mobility and flexibility. The characteristics of mobility and flexibility will be used as evaluation criteria throughout this monograph.

The characteristics of mobility and flexibility are consistently found in strategy and doctrine aimed at preparing the armed forces for the current and future operational environment. Doctrinal definitions of these characteristics provide clarity to the specific meaning and relevance to the AMEDD's force structure. The Department of Defense definition of mobility is "A quality or capability of military forces which permits them to move from place to place while retaining the ability to fulfill their primary mission."[2] Because operational doctrine allows for a unit's primary mission to change to accommodate simultaneous and sequential operations across full spectrum operations it is necessary to augment this definition with joint health service doctrine's definition of mobility as the ability to "anticipate need for rapid movement of health service

[1] Chief of Staff of the Army. *Field Manual 3.0, Operations.*(Washington, D.C.:June 2001), 8.
[2] Department of Defense Dictionary, available from http://www.dtic.mil/doctrine/jel/doddict/data.html; Internet; accessed 11 February 2003.

support resources to support combat forces during operations."[3] Within the context of force structure, the implications of these two definitions require the AMEDD to recognize the characteristic of mobility at the strategic, operational and tactical levels.

The Department of Defense does not provide a definition of flexibility, yet defines the term "flexible response" as "the capability of military forces for effective reaction to any enemy threat or attack with actions appropriate and adaptable to circumstances existing."[4] This definition complements joint health service support doctrine's definition of flexibility as the "ability to shift health service support resources to meet changing requirements."[5] The notion of being able to adapt to circumstances is consistent with the goal for the Objective Force to master transitions and be "equally effective at every point on the spectrum (of conflict)."[6] Within the context of full spectrum operations and Army Transformation, the future operational environment demands organizations that possess the mobility and flexibility necessary to deploy rapidly and transition from one end of the spectrum to another.

The Medical Reengineering Initiative (MRI) Combat Support Hospital (CSH) provides a viable structure to support MTW-type scenarios. By design, however, the MRI CSH does not have adequate mobility or flexibility to support small-scale contingencies below the Corps level. The author's assertion is that the AMEDD's force structure does not fully support full spectrum operations with Level III[7] hospital capability.

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[3] U.S. Department of Defense, *Joint Publication 4.02, Doctrine for Health Service Support in Joint Operations,* (Washington, D.C., U.S. Government Printing Office: 30 July 2001), vi.
[4] Department of Defense Dictionary, available from http://www.dtic.mil/doctrine/jel/doddict/data.html; Internet; accessed 11 February 2003.
[5] U.S. Department of Defense, *Joint Publication 4.02, Doctrine for Health Service Support in Joint Operations,* (Washington, D.C., U.S. Government Printing Office: 30 July 2001), vi.
[6] U.S.Department of the Army, *TRADOC Pam 525-3-90, Military Operations, Objective Force Maneuver Units of Action,* (Washington, D.C.: 1 November 2002), 6.
[7] U.S. Department of the Army, *Field Manual4-02.10, Theater Hospitalization,*. (Washington, D.C., Government Printing Office: December 2000), p 1-3. The Combat Health Support (CHS) system is organized into five echelons of support. Level III care provides resuscitation, initial wound surgery and postoperative treatment. Patients are stabilized for further evacuation or returned to duty from a Level III facility. The corps CSH is located at this level.

METHODOLOGY

Chapter Two provides an analysis of national and joint strategy and vision regarding the future operational environment and implications for the AMEDD. Chapter Three provides analysis of recent deployments from the perspective of the medical mission requirements and actual forces deployed to accomplish these missions. Chapter Four outlines the evolution of Joint and Army operational and combat health support (CHS) doctrine that illustrates threads of continuity (and discontinuity) between national, joint and Army strategies outlined in Chapter Two, and execution analyzed in Chapter Three. Current AMEDD initiatives directed at addressing the identified shortfalls in mobility and flexibility are outlined in Chapter Five. The summary and conclusion contained in Chapter Six synthesizes the author's findings regarding Level III hospitalization capability for low to mid intensity conflict below the corps level and provides a recommendation for force structure to support full spectrum operations. The criteria of mobility and flexibility are used throughout this work to evaluate previous and current organizations and potential alternatives.

CHAPTER TWO

STRATEGY

Previous versions of the *National Security Strategy* and *National Military Strategy* developed after the end of the Cold War prescribed an overall policy of global engagement and the need for a capability to fight two major theater wars (MTWs) in overlapping timeframes. The ability to respond across the full range of potential military operations combined with the nation's overall policy of global engagement presented a significant challenge to the military, particularly in terms of developing force structure to meet the needs of the strategies. *Joint Vision 2020* and the post-Cold War *National Military Strategy* reinforced the complexity of the operational environment with its ambiguous directive to "prepare now for an uncertain future."[8]

Joint Vision 2020 presents significant implications for the AMEDD in its vision of a reduced logistics footprint. Despite the desire to reduce size and force structure to enable rapid deployment, *Joint Vision 2020* acknowledges "Achieving full spectrum dominance means the joint force will fulfill its primary purpose – victory in war, as well as achieving success across the full range of operations, but it does not mean that we will win without cost or difficulty. Conflict results in casualties despite our best efforts to minimize them, and will continue to do so when the force has achieved full spectrum dominance…we will win – but we should not expect war in the future to be either easy or bloodless."[9] This statement serves as a reminder of the enduring characteristics of combat that cannot be entirely mitigated by technology and transformation. This realization identifies a key challenge for the AMEDD in terms of developing a force structure possessing the requisite mobility and flexibility to meet mission requirements. It presents the AMEDD a paradox in terms of keeping pace with transformation initiatives for the future without letting go of the reality of the past.

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[8] Department of Defense, *National Military Strategy*, (Washington, D.C.,Government Printing Office: 1997), 1.
[9] U.S. Department of Defense, *Joint Vision 2020*, (Washington, D.C.:U.S. Government Printing Office), 4.

At the center of this paradox is the pressure to reduce overall logistics footprint without compromising the standard of care for U.S. forces involved in military operations. Reduction in logistics footprint represents an economy of force that enables U.S. forces to leverage technological advances and achieve full spectrum dominance. The AMEDD must organize its forces with respect to the desire to reduce the logistics footprint but must also remain cognizant of efficiency in regard to prevention of casualties. "The consequences of miscalculating the razor's edge of resource allocation are significantly higher when national interests and objectives are involved; thus a degree of inefficiency may be necessary to ensure the effective execution of strategy."[10] This is particularly true regarding planning for medical resources. Peak methodology, while seemingly inefficient, ensures an appropriate standard of care is provided to U.S. forces involved in military operations.[11] Characteristics of mobility and flexibility directly relate to the challenges of this paradox. The current *National Security Strategy* predicts future conflict will involve more small-scale contingencies and that the nation will be engaged worldwide to counter threats of terrorism and weapons of mass destruction (WMD). This edition of the *National Security Strategy* calls for all military forces currently structured to deter massive Cold War era armies to transform to "focus on how an adversary might fight rather than when and where a war might occur."[12] The current *National Security Strategy* further directs the military to "channel our energies to overcome a host of operational challenges."[13] These directives present a paradox for the AMEDD in organizing resources to be smaller, more mobile

[10] William T. Johnsen, et al, *The Principles of War in the 21st Century: Strategic Considerations*, (Carlisle, PA: US Army War College, 1995),15.
[11] 733 Study Update Report, *Wartime Medical Requirements Draft Working Paper*, dtd 24 Jul 97, CGSC brief:2001. The 733 update identification of peak casualty rates, rather than averages, is critical to properly size the medical force. Both a peak methodology and an averaging methodology may compare exactly for total casualties expected, but the peak methodology reflects the actual surge loads, which occur in historical operations. When a U.S. soldier is WIA the standard of care expects treatment the same day, not in a subsequent day when the demand is less than average, thereby freeing up resources. Peak methodology also identifies a different set of care requirements than the averaging methodology, establishing a higher demand for surgeons and operating rooms than would be shown in steady state representation.
[12] U.S. President, *The National Security Strategy of the United States of America*, (Washington, D.C.: The White House, September 2002), 29.
[13] Ibid..

without sacrificing the efficiency necessary to meet mission requirements. While threat assessments anticipate the need for smaller organizations trained and equipped to meet global threats on a small scale, the emergence of the current increased threat of weapons of mass destruction serves as a cautionary note to those planning AMEDD force structure.

The pre-decisional draft of the current *National Military Strategy* elaborates on the operational challenges mentioned in the current *National Security Strategy* stating the changing character of war includes "asymmetric approach, proliferation, and the more interconnected nature of the environment."[14] Again, the implication is that combat service support organizations, particularly the AMEDD, will have a more predominant role in the new strategy. The strategy of "protect, prevent and prevail" that replaced "shape, respond, prepare now" does not discount the possibility of a MTW scenario but sets the condition for services to deliberately prepare for and expect to be engaged in the full range of military operations. Specifically this strategy directs the services to "undertake organizational changes that increase the flexibility, utility and effectiveness"[15] of the joint force. These organizational changes are reinforced later in the document in a passage that describes the implications of this version of the *National Military Strategy* on the services in which the uncertainty of the future security environment demands forces that are more "flexible, adaptive, versatile, and capable than in the past."[16]

The Army's operational doctrine contained in *Field Manual (FM) 3.0 Operations* supports current versions of the *National Security Strategy* and the *National Military Strategy*. The purpose statement contained in the preface states "*FM 3.0* establishes the Army's keystone doctrine for full spectrum operations. The doctrine designates warfighting as the Army's primary focus and recognizes that the ability of Army forces to dominate land warfare also provides the ability to dominate any situation in military operations other than war. The foundation of *FM 3-0* is built upon global strategic responsiveness for prompt, sustained Army force operations on land

[14] Department of Defense, Pre-decisional draft of the *National Military Strategy dtd 10.23/02*, 2.
[15] Ibid., 8.

as a member of a joint or multinational force."[17] The elements of full spectrum operations and global strategic responsiveness have a significant impact on the design of AMEDD forces that must support Army force operations in terms of mobility and flexibility.

Just as the Army's operational doctrine is shaped by documents such as the *National Military Strategy* and *Joint Vision 2020*, there are external influences on the development of AMEDD doctrine, vision and organization. The central challenge for resources within the AMEDD is the competing needs of the readiness mission and the beneficiary care mission. RAND[18] specifically addresses the readiness challenge in a white paper entitled *Elements of Change in Military Medical Force Structure*. This study concludes "because the readiness and benefit missions are not perfectly matched, no medical force structure will ideally serve either mission…Fundamental to the DoD missions, however, is the readiness mission; it should serve as the basis for building force structure."[19] Consistent with all the documents referenced to this point and specific to the direction of the AMEDD, is the Assistant Secretary of Defense (Health Affairs) designation of joint medical readiness, as its number one priority. Included in the ASD (HA) definition of joint medical readiness is the directive for medical forces to "meet the challenges of a rapidly changing continuum of Service-specific, joint, and combined military operations anywhere at anytime." [20] The identification of readiness as fundamental to the DoD missions reinforces the ASD (HA) priorities and provides focus for the AMEDD's force structure efforts.

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[16] Ibid..
[17] Chief of Staff of the Army. *Field Manual 3.0, Operations.*(Washington, D.C.:June 2001), vii.
[18] RAND is a non-profit institution that helps improve policy and decision-making through research analysis. Defense related research is primarily conducted through RAND's National Defense Research Institute. This is a federally funded research and development center supported by the Office of the Secretary of Defense, the Joint Staff, and the unified commands.
[19] William Hix, *Elements of Change in Military Medical Force Structure: A White Paper* (Santa Monica, CA.:1994), vii. This paper was prepared in response to a request from the Department of Defense Total Force Policy Study to review the missions and functions of military health care.
[20] Assistant Secretary of Defense (Health Affairs), *MHS Strategic Plan*, available from http://www.ha.osd.mil/strat_plan/default.cfm; Internet; accessed December 15, 2002.

The ASD (HA) also addressed medical readiness in its *1998 Strategic Thinking Assumption White Paper.* One observation in this white paper urges medical operations and planning efforts to include medical support packages which are "more rapidly deployable, smaller, lighter, and tailored to specific contingency missions."[21] This white paper documented problems with the size of wartime medical assets and their logistical footprint. A relevant conclusion of this white paper is that the actual number of hospitals in the AMEDD's inventory and its total capability framed in the previous context of two simultaneous MTW requirement is now less critical than their bulk and the ability to get them where they are needed. This assessment is consistent with the recommendation for the Army to develop modularity below the unit level made by RAND in its study *Assessing Requirements for Peacekeeping, Humanitarian Assistance and Disaster Relief.*[22] Analysis of operations in Somalia, Haiti, and Bosnia indicates that smaller, brigade and below sized operations characteristic of the period following the end of the Cold War required a fragmentation of units. While AMEDD demonstrated remarkable flexibility in its willingness to task organize to meet mission requirements, it did so at the expense of unit readiness. The U.S. Army Reserve Component Surgeon General's assessment of Desert Storm and Desert Shield states, "the USARC took 296 bed combat support hospitals and carved out a functional piece to support the war fighter. By begging and borrowing transportation this piece was made mobile. This provided forward support to the troops but left the remainder of the hospital non-functional."[23] This assessment addressed characteristics of mobility and flexibility in the first major post-Cold War deployment.

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[21] Assistant Secretary for Defense (Health Affairs). *Strategic Thinking Assumption White Paper*, (Washington, D.C.:1998), 4.
[22] Bruce Pirnie, *Assessing Requirements for Peacekeeping, Humanitarian Assistance, and Disaster Relief*, (Santa Monica, CA.:1998) xvii-xviii. A three-phase project aimed at assessing requirements for these types of operations and recommending options to conduct these type operations more effectively without detracting from the nation's ability to prevail in major theater warfare.
[23] USARC Surgeon General, accessed from the world wide web at http://www.usarc.army.mil/surgeon/DEFAULT.HTM on 8 March 2003.

The case studies analyzed in Chapter Two of this monograph further indicate that the lack of deployable increments caused medical units to deploy piecemeal, compromising both the beneficiary mission and the organizational capability. Organizational capability is further degraded through the non-doctrinal use of those elements of the AMEDD, such as the Forward Surgical Team, that do possess characteristics of mobility and flexibility. Force structure changes aimed at increasing mobility and flexibility naturally consider smaller/lighter, more modular organizations that can rapidly deploy and adapt to mission requirements. While modularity has the potential to limit a planner's flexibility by offering preconceived entities for deployment, it may pay larger dividends in achievement of a smoother, more predictable execution. This is particularly desirable for the AMEDD who must maintain adequate resources for beneficiary care while recognizing the requirements of medical support for simultaneous operations.

Post-Cold War doctrine and initiatives taken by the AMEDD reflect acknowledgement of the need for organizational change oriented toward a more mobile and flexible hospital capability. Specifically, the Medical Reengineering Initiative (MRI) reorganized the Combat Support Hospital (CSH) into more rapidly deployable hospital modules. The doctrine and structure of this organization, however, is still oriented to support Echelons Above Division (EAD) and Corps (EAC) MTW scenarios. This structure is inconsistent with the current *National Military Strategy's* prediction of future predominance of small-scale contingency operations. Also, it is not suited to support Army forces conducting full spectrum operations as outlined in *FM 3.0*. The MRI CSH offers a 44-bed module that represents the smallest increment of Level III hospitalization in the AMEDD inventory, however even this increment relies on follow on augmentation from the remainder of its parent 84-bed company.

Post-Cold War deployment data and emerging doctrine indicates the AMEDD is not structured to support the low end of full spectrum operations in terms of mobility and flexibility. Since the end of the Cold War the AMEDD has continually relied on ad-hoc organizations and non-doctrinal use of existing organizations to meet mission requirements. Webster's Dictionary

defines ad-hoc as "for the particular case at hand without consideration of wider application; fashioned from what is immediately available." [24] Given the implications and demands of full spectrum operations it appears the practice of relying on ad-hoc organizations to perform specific missions does not recognize the need for flexible units that can transition from one end of the spectrum to another. In contrast to the narrow focus of ad-hoc organizations are organizations that are modular. Modularity is defined as "constructed with standardized units or dimensions for flexibility and variety in use."[25] Modularity reinforces the merits of flexibility in an organization and emphasizes the necessity of constructing an organization to suit mission requirements whereas ad-hoc organizations are constrained by use of existing assets. The Department of Defense officially defines medical readiness as"the ability to mobilize, deploy and sustain field medical services and support for any operation requiring military services; to maintain and project the continuum of healthcare resources required to provide for the health of the force..."[26] This definition reiterates the need for capability to support full spectrum operations. By definition, ad-hoc task forces are not capable of supporting full spectrum operations because they are formed for specific and immediate needs. Ad-hoc organizations and non-doctrinal use of existing organizations is another indicator that the AMEDD does not have the adequate flexibility in its force structure to meet all aspects of full spectrum operations.

[24] Webster's New Riverside University Dictionary, (Houghton Mifflin Company, Boston, MA: 1984), 78.
[25] Ibid., 762.
[26] Department of Defense, *Medical Readiness Strategic Plan 1995-2001*, available from http://www.cpf.navy.mil/pages/n01m/PLANS.htm; Internet; accessed 8 November 2002.

CHAPTER THREE

HISTORY

The nature of recent AMEDD operations accurately reflects the shift in the *National Security Strategy* and the *National Military Strategy* outlined in Chapter One and presents a framework for the environment the AMEDD must be structured to operate in. A review of how the AMEDD organized its forces for recent deployments and subsequent lessons learned provides a basis for assessment of its current ability to support small scale contingencies below the corps level and potential force structure changes necessary to meet the requirements of full spectrum operations. While Operation Desert Storm is not classified as a small-scale contingency operation, many of the lessons learned from this operation shaped the AMEDD's efforts to reorganize, making this data relevant to this research. Additional deployments analyzed include Operations Provide Comfort (Iraq), Provide Promise (Balkans), Restore Hope (Somalia), Allied Force/Task Force Hawk (Albania) and Enduring Freedom (Afghanistan). These operations provide a variety of missions and circumstances that are used to assess the AMEDD's ability to support full spectrum operations using the evaluation criteria of mobility and flexibility.

Operation Desert Storm was the first major military operation following the end of the Cold War. According to studies conducted in 1993 by the Government Accounting Office[27] and Department of Defense Inspector General's office[28] the execution of Operation Desert Storm revealed shortcomings in DoD's ability to provide adequate and timely medical support during contingencies and problems in the planning and execution of medical missions. The DoD Inspector General's report specifically stated DoD's deployable hospitals lacked sufficient mobility at both the strategic and operational level. The unprecedented period of build-up

[27] United States General Accounting Office, *Operation Desert Storm: Full Army Medical Capability Not Achieved*, GAO/NSIAD-92-175,(Washington, D.C.: August, 1992), 2-5.
[28] DoD Inspector General, *Medical Mobilization Planning and Execution*, 93-INS-13, (Washington, D.C.: September 1993), 5.

enabled the deployment of a heavy hospital structure that would not be possible in any other scenario that depended on achievement of surprise and enforced economy of force and reduced logistical footprint.

The AMEDD learned many lessons from Operation Desert Shield. Doctrinal employment of the CSH locates the corps CSH with the nearest corps support group due to its dependency on that organization for elements of support.[29] The tempo of the maneuver plan necessitated employment of corps combat support hospitals further forward than doctrinally correct. In their plan, medical planners acknowledged the CSH's known mobility and flexibility shortfalls that would prohibit it from supporting maneuver forces once offensive operations commenced. The corps CSH is 35% mobile and relies on external transportation assets for operational mobility. Doctrinal employment of the corps CSH states "For maximum use of the CSH the entire organization should deploy together. However, due to its limited mobility and availability of transportation support it may be necessary to deploy by echelon."[30] Employment doctrine further constrains the medical planner by stating "because of its size, relocating the corps CSH should be limited."[31] Given the planning factors of moving the CSH no more than one time in a 25-day period, a maximum distance of 100km, and allocating 72 hours to prepare for relocation and an additional 72 hours to reestablish operations following the move[32] it is evident the current CSH organization is challenged in terms of mobility and flexibility. Although Operation Desert Storm was short and casualties were light, medical planners were challenged by the vast distances, rapid speed of the maneuver forces, and large numbers of enemy prisoners of war and refugees.

Subsequent results of war games conducted in 1994 compound mobility problems by demonstrating inadequate lift capability to support strategic movement of deployable hospitals for

[29] Department of the Army, Field Manual 4-02.10, Theater Hospitalization, (Washington,D.C.,Government Printing Office: December 2000), 4-9.
[30] Ibid., 4-8.
[31] Ibid,. 4-9.

two nearly simultaneous major regional conflicts. Based on the premise that future conflict would be short in duration with shorter response times, the Joint Staff recommended that all three services "redesign their medical systems assuming smaller and lighter deployable hospitals "[33] and focus on quicker evacuation of patients to the United States for definitive treatment. In response to the findings of the studies and recommendations from the Joint Staff, each of the services developed initiatives to address shortfalls in medical capability and improve overall medical readiness. The implied combination of lighter, more deployable hospitals with primary emphasis on stabilizing patients for evacuation out of theater influenced the AMEDD's perspective on capability requirements for the development of its initiatives. The challenge for the AMEDD was to develop initiatives to improve both mobility and flexibility, which could easily become contradictory in nature.

The AMEDD's initiatives were also influenced by modifications made in 1994 to Defense Planning Guidance (DPG). The revised DPG of 1994 required DoD to "prepare for two nearly simultaneous major regional conflicts as well as small-scale contingencies and operations other than war."[34] Again, implied in this guidance was the need for organizations with increased mobility and flexibility. Anticipated shorter response times for deployment increased the demand for strategic transportation assets and complicated the fact that medical assets must compete with combat troops for already scarce lift capability.

In early 1994 the AMEDD began a medical reengineering initiative (MRI) program. MRI was designed to address directives from the Joint Staff and implications of the 1994 DPG. Specifically, MRI's emphasis is on improving shortcomings of the AMEDD in deployability,

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[32] Ibid..
[33] United States General Accounting Office, *Wartime Medical Care: DOD is Addressing Capability Shortfalls but Challenges Remain*, GAO/NSIAD-96-224,(Washington, D.C.: September 1996), 2-4.
[34] *1994 Defense Planning Guidance*, available from http://www.dtic.mil/whs/directives/corres/pdf; Internet; accessed 18 February 2003.

modularity, and split-base operations.[35] The Army's Surgeon General's goal was to "reconfigure the Army's combat health support operations, simultaneously incorporating lessons learned from Operation Desert Storm and anticipating force structure necessary for operations other than war anticipated in the future."[36] Changes to structure of Level III hospitals were made to address the goals of MRI, such as the 44-bed early entry hospital. According to U.S. Army Reserve Component Surgeon General, Colonel Paul Ruble, "the history (of MRI) came out of lessons learned from Operations Desert Storm and Desert Shield. The AMEDD had built-in 'modularity' in the medical force, but, it was modularity for the NATO scenario."[37] Under MRI, theater hospitalization is provided by a single CSH. The redesigned CSH is based on lessons learned from Desert Shield/Desert Storm, recent contingency operations, and the requirements of the future warfight.[38] Hospital size and bed mix, in particular, are based upon these experiences as well as the casualty rates, disease and non-battle injury (DNBI) rates, and projected evacuation policy for the major regional conflict scenarios. The doctrine for the employment of this hospital will be discussed in Chapter Three of this monograph.

HOSPITALIZATION UNDER MF2K

Prior to Operation Desert Storm, the AMEDD followed the Medical Force 2000 (MF2K) concept. Under MF2K, theater hospitalization was provided by three hospitals, the CSH, the field hospital (FH) and the general hospital (GH). These hospitals were designed and based upon the North Atlantic Treaty Organization (NATO) scenario and workloads, which were derived primarily from a MTW scenario.

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[35] *Medical Reengineering Initiative Program Implementation*, available from http://mrimedforce.belvoir.army.mil/faqs.htm; Internet; accessed 8 March 2003.
[36] Ibid..
[37] Ruble, Paul Colonel, USAR Surgeon General, information regarding USAR medical unit participation in Operations Desert Shield/Storm, available from http://www.usarc.army.mil/surgeon/HTM; Internet: accessed 15 December 2002.
[38] U.S. Department of the Army, *Field Manual 4-02.10, Theater Hospitalization*, (Washington, D.C.:Government Printing Office, December, 2000), p vii.

At the Corps level, the Mobile Army Surgical Hospital (MASH), CSH and Evacuation Hospital provided Level III care.[39] Employment of these hospitals was primarily based on the tenets of *FM 100-5, AirLand Battle.*[40] Similar to the NATO scenario that shaped the theater hospitalization structure, this version of FM 100-5 made basic assumptions such as theater in depth, conventional battle on a linear, contiguous battlefield that shaped the AMEDD structure and doctrine.

Examination of past AMEDD organizations provides insight regarding the evolution of structure relative to operational environment. *Field Manual 8-10, Health Service Support in a Theater of Operations*, dated 1 March 1991, describes the missions, capabilities, and concept of operation and employment of the Corps level hospitals used to provide Level III care prior to implementation of the MRI structure.

The mission of the MASH was to provide resuscitative surgery and medical treatment necessary to prepare critically injured and wounded patients for further evacuation. It was the only 100% mobile hospital facility and on a 24-hour basis, the MASH was capable of providing intensive care for up to 60 patients, operating up to four operating rooms, ancillary services such as laboratory, pharmacy, radiology, and blood banking services. The MASH's concept of operation[41] called for employment near the supported division's rear boundary. This concept of operations recognized that under certain conditions, it may be necessary to employ the MASH forward of the division's rear boundary. The MASH had no formal evacuation policy and possessed the capability to hold patients and release based on stabilization and readiness for

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[39] Ibid., p 1-3. The CHS system is organized into five echelons of support. Level III care provides resuscitation, initial wound surgery and postoperative treatment. Patients are stabilized for further evacuation or returned to duty from a Level III facility. The corps CSH is located at this level.

[40] U.S. Department of the Army, *Field Manual 100-5, Operations*, (Washington, D.C.,Government Printing Office: June, 1993), p 2-6. The tenets of Army operations are initiative, agility, depth, and synchronization. FM 100-5 directed all combat, combat support and combat service support doctrine derive directly from and support these fundamental tenets.

[41] U.S. Department of the Army, *Field Manual 8-10, Health Service Support in a Theater of Operations.* (Washington, D.C., Government Printing Office: 1991),25-30.

further evacuation. Patients stabilized by the MASH could either be transferred to the next level facility in theater or evacuated back to the communications zone (COMMZ).[42]

The mission of the CSH was to provide hospitalization to all classes of patients in the combat zone (CZ), which begins at the Army/corps rear boundary and extends forward to the extent of the commanders area of influence.[43] On a 24-hour basis, the CSH was capable of providing resuscitative surgery and medical treatment necessary to prepare critically injured and wounded patients for further evacuation, surgical and medical services for patients held for definitive treatment, intensive, intermediate, and minimal care for up to 200 patients. The concept of operation of the CSH was employment farther to the rear of the division boundary than the MASH to minimize need for relocation. When the tactical situation demanded relocating the CSH, patients had to be regulated to other medical treatment facilities (MTF). In addition to the transportation assets necessary to regulate patients to other MTFs during a move, the 35% mobile CSH required external transportation assets to move the majority of its organic equipment.

The evacuation hospital was the third organization to provide corps level support according to doctrine. The evacuation hospital provided the most definitive care for all classes of patients within the CZ. Its capabilities included resuscitative surgery and medical treatment necessary to prepare critically injured and wounded patients for further evacuation, surgical, oral surgical and medical services for patients held for definitive treatment, intensive, intermediate, and minimal care ward nursing service for 400 patients. The concept of operation[44] for the evacuation hospital included preparing patients for evacuation to the Mobile Aeromedical Staging Facility for evacuation to the COMMZ; receive patients from other facilities throughout the CZ, and employment in an area that does not require frequent movement.

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[42] Department of the Army, *Field Manual 4-02.10, Theater Hospitalization*, (Washington, D.C.:Government Printing Office, December 2000), vii. The COMMZ begins at the corps rear boundary and extends rearward to include the area(s) needed to provide forces in the combat zone (CZ).
[43] Ibid..
[44] Department of the Army, Field Manual 8-10, Health Service Support in a Theater of Operations, (Washington, D.C.: Government Printing Office, 1991), 25-30.

The MRI eliminated the EAC FH and GH, the EAD MASH, and the evacuation hospitals. The 248-bed CSH was reconfigured into EAC and EAD organizations to meet the intent of the initiative and streamline force structure. The reconfigured EAD CSH consisted of two self-supporting modules – a fully mobile 84-bed module and a 164-bed module. This was the AMEDD's initial move toward modularity and demonstrated potential for improved flexibility within the organization and resulted in the elimination of the MASH.

The capability of surgery far forward on the battlefield previously provided by the MASH was replaced by mobile forward surgical teams (FST) capable of providing urgent resuscitative surgery forward on the battlefield but does not constitute Level III care. According to doctrine "The forward surgery concept represents a change to the forward surgical CHS system, not an addition…The evolving, increasingly nonlinear battlefield requires proximate medical care (to include surgical capability) to ensure that stabilization of the casualty is sufficient for evacuation to a corps-level hospital. Hospitals are complex organizations that do not have the mobility of the units supported."[45] The Army Surgeon General approved these proposed reengineering changes in December 1995 for implementation to begin in fiscal year 2000. The AMEDD named the end result of its reengineering efforts, MEDFORCE XXI.

Simultaneous with the Army Surgeon General's approval of MEDFORCE XXI, DoD published a Medical Readiness Strategic Plan (MRSP).[46] The MSRP was managed by the Office of the Secretary of Defense (Health Affairs) in an effort to synchronize the services' reengineering efforts. In accordance with the *National Military Strategy* at the time, the services primary aim was to reconfigure wartime medical capability to be "more compatible with plans for two major regional conflicts and operations other than war." [47] All of the services shared

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[45] Department of Defense, *Field Manual 8-10-25, Employment of Forward Surgical Teams: Tactics, Techniques, and Procedures*, (Washington, D.C.:30 September 1997), 1-3.
[46] Department of Defense, *Medical Readiness Strategic Plan, 1995-2001*, (Washington D.C. June 2001)2-3.
[47] United States General Accounting Office, *Wartime Medical Care: DOD is Addressing Capability Shortfalls but Challenges Remain*, GAO/NSIAD-96-224,(Washington, D.C.: September 1996), 2-4.

common goals "to be lighter, smaller, more mobile and adaptable to mission requirements."[48] The MSRP formally identified the need for services to modernize their deployable hospitals to reduce their weight and size to decrease transportation demands and improve mobility of the hospitals. The objectives of this plan reinforced the changes the Army Surgeon General had approved for implementation.

Throughout the development, approval process, and implementation of MEDFORCE XXI, the AMEDD continued to participate in a variety of operations other than war. Starting with Operation Provide Comfort and continuing with current operations in Afghanistan, the AMEDD has a number of scenarios to serve as indicators of the accuracy of its reengineering efforts.

OPERATION PROVIDE COMFORT

Operation Provide Comfort provided relief to the Kurdish refugees from northern Iraq and protection for humanitarian relief efforts. It began on April 6, 1991 and ended July 24, 1991. On 5 April 1991 the United Nations then passed resolution 688 condemning Iraqi repression of Kurdish rebellion and asking member states to assist the Kurds and other refugees in northern Iraq with a demand for Iraq to cooperate with these relief efforts. President Bush ordered the United States European Forces to direct immediate relief assistance. The result of President Bush's order and UN resolution 688, culminated in a coalition of 13 nations with material contributions from 30 countries working under the command and control of the Coalition Task Force. Although many nations ultimately contributed to the operation, the primary countries involved were the US, the United Kingdom, France, and Turkey.[49]

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[48] Ibid..
[49] Information about Operation Provide Comfort available from http://www.fas.org/man/dod-101/ops/provide_comfort.htm; Internet; accessed 3 April 2003.

Two subordinate joint task forces (JTFs) were established to facilitate the mission. JTF 'Alpha', composed primarily of the 10th Special Forces (SF) Group, was spread throughout the mountains of southeast Turkey, headquartered in Silopi, was responsible for alleviating the dying and suffering while stabilizing the situation. JTF 'Bravo', centered on the 24th Marine Expeditionary Unit (MEU), prepared the town of Zakho, in northern Iraq, for the incoming Kurds and facilitate their eventual transfer back to their homes.[50]

Operation Provide Comfort is described in the official European Command after action report (AAR) as a "humanitarian assistance mission with a security requirement."[51] The introduction of this AAR states "Little, if any, doctrine exists for this type of operation. Since this will most likely not be an aberration, but may become the kind of operation military forces will find themselves involved in more frequently in the future, the lessons learned and the tested ideas that were successful and unsuccessful are worth recounting and analyzing."[52]

The general mission of the Combined Task Force (CTF) responsible for providing humanitarian assistance was to relieve the plight of the refugees. The specific tasks associated with this mission evolved over time. The two disparate types of operations, humanitarian effort and security operations, conducted simultaneously during Operation Provide Comfort illustrate the challenge in planning support for full spectrum operations. On occasion these missions competed and conflicted with one another for resources and priority.[53] The evolution of mission requirements is not unique to this operation. AMEDD doctrine regarding stability and support operations (SASO) identifies characteristics of short notice deployment, the need to tailor support packages to meet mission requirements, and the need for medical planners to prepare for

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[50] Ibid..
[51] Headquarters, United States European Command. *Operation Provide Comfort After Action Report*, (Washington, D.C.:29 January 1992),1.
[52] Ibid.,2.
[53] Author's personal experience as a Platoon Leader in C Company, 3d Forward Support Battalion deployed to northern Iraq during Operation Provide Comfort. While the unit was deployed specifically to provide humanitarian relief to Kurdish refugees, tensions in the region resulted in the JTF Bravo commander directing the company to coordinate with 3/325 Infantry Battalion to conduct doctrinal medical support for potential combat operations.

changing requirements as the operation progresses.[54] Recognition of these characteristics of SASO reinforces the need for AMEDD organizations to address the criteria of mobility and flexibility. The original short-term goal of Operation Provide Comfort was to provide air delivery of supplies to refugees. This effort was insufficient to meet the needs of the refugees and humanitarian forces were deployed to ensure the survival and eventual return of refugees to their homes.

Two major characteristics of this operation impacted the provision of medical support. The medical needs of the refugees and the size and dispersion of elements of the CTF proved challenging to medical support operations.[55] Initially medical assets and operations were uncoordinated and decentralized but as the operation evolved it became necessary to centralize medical operations under one plan to synchronize both military and civilian medical efforts.

The AMEDD's participation in Operation Provide Comfort consisted of a CTF Surgeon section for command and control, one Medical Logistics Battalion, one Air Ambulance Battalion and two Forward Support Medical Companies (FSMC).

The deployment and use of the FSMCs are the focus of this assessment. These organizations represent the only AMEDD organizations deployed with holding capability. The FSMC is only capable of providing Level II care consisting of emergency medical treatment, resuscitation, stabilization and preparation for further evacuation or return to duty.[56] While the mission and the environment indicated a viable demand for Level III care, it is notable that no Level III capability from the AMEDD was deployed into the Area of Operation (AO). The two FSMCs were distributed with one stationed in Turkey supporting a displaced civilian (DC) camp in Zakho and one providing support forward in Northern Iraq assisting in the resettlement of

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[54] Department of Defense, *Field Manual 8-42, Combat Health Support in Stability and Support Operations*, (Washington, D.C.:Government Printing Office, October 1997), p.1-1, 4-4.
[55] Headquarters, United States European Command, *Operation Provide Comfort After Action Review*, (Washington, D.C.:1992),14.
[56] Department of the Army, *Field Manual 8-10-6, Medical Evacuation in a Theater of Evacuation*, (Washington, D.C.:Government Printing Office, April 2000), 1-8.

refugees and working with the local civilian hospitals, civil affairs personnel, and NGO/PVOs in the area.

The FSMC capability consists of sick call and trauma sets and 40-bed (cot) holding capability. Its doctrinal mission is to support deployed maneuver brigades at the Divisional level.[57] While the FSMC structure suited this mission in terms of mobility, flexibility to operate independently and integrate with local infrastructure, and provided roughly the size capability needed, there are issues with its non-doctrinal employment.

First, it left its parent unit, the Forward Support Battalion, and supported maneuver brigade without its doctrinal medical support. This directly affected the ability of its parent unit and its supported maneuver brigade to conduct simultaneous operations. Second, while the skills of the individuals organic to the FSMC were adequate, the organization soon realized its equipment was unsuited for the patient population that generated the most demand for care. The medical need during this operation was greatest among children and elderly individuals. A medical unit organized and resourced to support a maneuver brigade in combat does not have the requisite equipment or supplies to conduct humanitarian operations for this population. The FSMCs were dependent on push packages from the World Health Organization to successfully perform the mission.

Immediately following Operation Provide Comfort, the U.S. Army John F. Kennedy Special Warfare Center and School noted as a significant finding in its final draft of Operation Provide Comfort Lessons Learned/Observations "the U.S. Army medical force structure is not optimally configured for DC (displaced civilian) operations. There is a need to develop doctrine and force plans to respond to future DC contingency operations."[58] The fact that the Army medical force structure was not optimally configured for DC operations is no surprise given the

[57] Department of the Army, *Field Manual 63-20, Forward Support Battalion,* (Washington,D.C.:Government Printing Office, February 1990), 9-1.

fact that prior to Operation Provide Comfort, the Army and the AMEDD was focused on the Cold War. The acknowledgement that these type missions would become more predominant is an important note as the AMEDD embarked on its reengineering campaign.

OPERATION PROVIDE PROMISE

Like Operation Provide Comfort, Operation Provide Promise represented a coalition-based operation whose mission evolved over time due to various factors. The United Nations Protection Force (UNPROFOR) in the Balkans was a coalition of UN and NATO forces for peacekeeping established in February 1992. The U.S. component, Operation Provide Promise, was established in February 1993. The official U.S. medical mission during Operation Provide Promise was to provide Level III support to UN peacekeeping forces.[59] The Army supported two rotations with one MASH per rotation. The specific U.S. medical mission was originally limited to supporting truck convoys delivering humanitarian relief supplies with Level III care being purchased from civilian sources. Instability in the operational environment however generated a need for the U.S. medical mission to include provision of Level III care to UNPROFOR troops.

The AMEDD had a MASH already deployed to Zagreb, Croatia and this unit assumed this mission. Initially this MASH represented the only Level III hospital in the theater. Demand for services was low during the initial establishment of UNPROFOR, which resulted in the MASH redeploying 43 of its 397 deployed personnel. Because these personnel were directly affiliated with the unit, the unit retained the option of recalling these individuals back to the operation if necessary. This presented no additional degradation of medical readiness to other AMEDD units. This organization successfully demonstrated the flexibility to flex its capability

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[58] Department of Evaluations & Standardization, *Operation Provide Comfort Lessons Learned/Observations*, (U.S. Army John F. Kennedy Special Warfare Center & School, Fort Bragg, N.C.: 9 November 1992), 8.
[59] Center for Army Lessons Learned, *Operation Provide Promise Lessons Learned Report*, (U.S. Army Combined Arms Command, Fort Leavenworth, KS: 1994), 3.

based on the patient demand and mission requirements without adversely affecting the AMEDD's readiness or ability to support simultaneous operations.

Eventually shifts in coalition participation caused shortfalls in Level II care and available transportation for evacuation that increased the requirements for U.S. medical assets. Political directives calling for U.S. medical personnel to treat refugee children and adults also contributed to further expansion of the U.S. medical mission. Assessment of Operation Provide Promise reveals unique aspects of providing medical support as part of a coalition but still reiterates the need for mobility and flexibility. This operation demonstrates how the AMEDD successfully achieved this by effectively tailoring a unit's already organic resources without relying on ad-hoc attachments from other organizations.

OPERATION RESTORE HOPE

Operation Restore Hope occurred in Somalia from December 1992 to May 1993. The overall U.S. mission was to provide security and humanitarian assistance to the people of Somalia. Operation Restore Hope is unique in that it represents an operation with U.S. forces simultaneously performing peace enforcement and peacekeeping roles while supporting UN humanitarian assistance efforts.

The Center for Army Lessons Learned official report on Operation Restore Hope provides an overview of medical support for the operation. "None of the AMEDD systems failed, but the operation revealed weaknesses in readiness, doctrine and organization that must be corrected to prepare for future operations."[60] This statement reflects the unique challenge the AMEDD faced planning medical support for Somalia. While there were peaks and valleys in demand for medical care, the nature of the initial medical mission was primarily for routine care.

The instability of the environment and sporadic instances of combat created a challenge for medical planners to adhere to peak methodology versus most efficient use of critical medical assets such as surgeons. Unlike the coalition operations previously discussed, medical planners for Operation Restore Hope had to consider U.S. Army medical assets as the primary source of medical support for the operation. Another factor complicating the ability to accurately plan medical support, like Operation Provide Comfort, was the evolution of the medical mission. In this case, however, the evolution of medical mission was not a result of shifts in coalition participation or political directive, it was a shift from treating routine casualties to combat casualties requiring different specialties and equipment capabilities altogether.

The original medical mission for AMEDD assets deploying for Operation Restore Hope was to provide comprehensive care for U.S. forces involved in the security and humanitarian mission and to provide limited support to other coalition forces in theater. Forces deployed to perform this mission included organic medical personnel assigned to the 10th Mountain Division, a Medical Group and a 104-bed evacuation hospital. Given the predominance of routine care and the decrease in supported population of U.S. soldiers, this capability was replaced in a scheduled troop rotation by a 32-bed field hospital.

On 5 June 1993 an incident occurred that dramatically changed the operational environment and the nature of the medical mission. Twenty-four Pakistani soldiers were ambushed while taking part in a UN peacekeeping operation. Following this incident tension in the theater escalated and caused a subsequent increase in the threat level. Incidence of casualties due to sniper fire increased and the field hospital treated more serious casualties. The medical mission was expanded to include treatment of Somali nationals wounded as a direct result of confrontation with UN forces. The field hospital was replaced by a CSH. While this rotation was scheduled, it was not executed as smoothly as anticipated. The transitioning of medical support

[60] Center for Army Lessons Learned. *Operation Restore Hope Lessons Learned Report*, (U.S. Army Combined Arms Command, Fort Leavenworth, KS: 1993), X2.

was delayed because the personnel needed to fill the CSH were pulled from a number of different units across the U.S. and did not arrive in theater as one group. This impacted both the transition of the mission and the readiness level of the units in the U.S. tasked to provide the personnel necessary to fill the mission requirements.[61]

Over the course of the 17-month deployment the medical mission expanded from supporting U.S. forces performing humanitarian relief in a relatively combat-free zone to supporting U.S. and UN forces and potentially Somalis in an increasingly combat-like environment. The changing nature of the medical mission within this one operation emphasizes the need for a structure possessing mobility and flexibility to support the transition from SASO to combat operations. The fact that the AMEDD responded to the shifts in medical missions and patient demands with completely different hospital structures demonstrates the lack of flexibility within any of the organizations to accommodate the shifts using organic assets.

OPERATION ALLIED FORCE/TASK FORCE HAWK

From March through July 1999, U.S. forces participated in Operation Allied Force in Albania. Task Force Hawk was one element that participated in Operation Allied Force. The tactics, techniques, and procedures used by medical planners in the provision of medical support for Task Force Hawk provide an interesting alternative to the methods used to solve some of the issues illustrated in the previously discussed scenarios.

Task Force Hawk was organized and designed to conduct deep operations in support of NATO Operation Allied Force. The Task force was organized primarily to provide NATO with a deep strike capability out of Albania into Kosovo. The lessons learned from this operation provide valuable insight into challenges for future deep and contingency operations to include deployment into a theater of operations with severely limited lines of communications. These

[61] Ibid., X4.

lessons learned are particularly relevant to the challenges the AMEDD anticipates facing in the future operational environment. The Task Force Hawk Combined Arms Assessment Team Initial Impressions Report, published in January 2000, contrasts the medical force used to support Task Force Hawk with the previous practice of "lumping together many disparate units" that "required considerable time to overcome challenges in unit cohesion before (it) became fully functional."[62] The MASH tasked to support Task Force Hawk had already anticipated the need for a developed and tested tailored package from its organization that could rapidly respond to SASO and small-scale contingency (SSC) operations. The Contingency Medical Force (CMF) was a revolutionary concept aimed at developing a comprehensive Combat Health Support system, using purely organic resources, with rapid deployment capability prior to deployment notification.

The CMF was the product of a deliberate attempt to balance the challenge of "the inverse relationship between enhanced capability and rapid deployability."[63] In 1998, the Commander of the 212th MASH initiated an 8-month long process aimed at designing a rapidly deployable, air transportable, medical module capable of providing Level III care in support of a brigade-sized contingency force of approximately 3,500 personnel. The results of the planning process were initially tested with a rotation at the Combat Maneuver Training Center, located in Hohenfels, Germany, and later validated during a short notice deployment to Albania in support of Task Force Hawk.

Design criteria and assumptions formed the basis for development of the CMF. The elements of design were:

- Built from existing force structure (in this case the MASH)
- Rapidly air deployable
- Able to synchronize deployment with Army/Joint Task Force
- Capable of providing core command and control for Joint Medical Augmentation
- Self-sustainable for 72 hours
- Able to provide responsive medical care

[62] Center for Army Lessons Learned, *TF Hawk CAAT Initial Impressions Report Operation Allied Force*, (U.S. Army Training and Doctrine Command, Fort Leavenworth, KS: January 2000), xi.
[63] Ibid., 227.

- Able to minimize morbidity and mortality due to wounds and disease, non-battle injuries (DNBI)
- Able to implement appropriate force protection measures
- Able to successfully transition to a larger medical force or redeploy

The design assumptions were:

- Minimum 48 hours notice prior to deployment
- Air Lines of Communication (ALOC) only
- Tactical Air Load Control Element (TALCE) availability
- Austere site to establish operations
- Ambiguous environment
- Minimum of 24 major surgical cases
- No support for initial 72-hour period
- Limited local infrastructure
- Support a brigade (-) sized task force (approximately 3,500)

Based on these assumptions the planned organization would have approximately one third of the current MASH's bed capacity. It eliminated most of the patient hold capability but retained most of the surgical and medical capability. It significantly reduced the administrative staff, leaving only those elements required to doctrinally consider the organization a self sufficient, stand-alone hospital.

The result of this effort yielded an organization that could deploy its equipment on seven U.S. Air Force 463-L pallets requiring two C130s or one C-141/C17 lift. The package provided Level III medical/surgical care, limited patient hold, laboratory, and radiological capability. Patient care capability consisted of four advanced trauma life support stations, four intensive care unit beds and ten minimal care cots. Surgical care was provided with two operating room tables and appropriate anesthesia and ancillary equipment. In order to achieve self-sustainability and meet AMEDD doctrinal standards for hospital care in accordance with*Field Manual 4-02.10, Theater Hospitalization*, the CMF had organic command and control, patient regulation and medical logistic elements. This administrative capability allowed the CMF to either receive augmentation or plug into an existing JTF, as the mission required.

Overall the CMF successfully executed its medical support mission for Task Force Hawk. Official AARs recorded by the AMEDD and the Army Center for Lessons Learned

compliment this organization as an "excellent hybrid of capabilities and mobility that the Army and the AMEDD have been looking for in the force development process."[64] The MASH that devised and implemented the use of the CMF for Task Force Hawk has been reorganized into a CSH in accordance with the AMEDD's plan to standardize hospital organizations. This organization is now able to deploy the 44-bed module of the MRI Combat Support Hospital as its smallest self-sustaining module.

OPERATION ENDURING FREEDOM

The final operation considered in assessing the history of AMEDD's post-Cold War deployments and how the organization has attempted to meet the needs of full spectrum operations is the recent Operation Enduring Freedom. One formal AAR briefed to an AMEDD General Officer panel identified problems with early entry, limited command and control force caps that resulted in dispersed fragments of units, and units not capable of full mission profile (except FSTs). [65]The issues related to early entry and achievement of full mission profile directly address and reinforce the need for a structure that meets the criteria of mobility and flexibility. As stated previously, the elimination of the MASH from the AMEDD inventory generated the need for mobile FSTs that could perform surgery further forward on the battlefield and could assume the MASH's mission to provide urgent resuscitative surgery.

The doctrinal concept behind the development of the Forward Surgical Team is to support CHS requirements for "versatility, expandability, and deployability, providing support where and when needed in peacetime, conflict and war…When this modular designed surgical

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[64] Ibid., 228 and Alan Moloff, Lieutenant Colonel, *"The Contingency Medical Force: Chronic Challenge, New Solution*", *Military Medicine*, 166, (March 2001):199-203.
[65] *AMEDD Casualty Care Integrated Concept Team* information available from http://dcdd.amedd.army.mil/ICT/Casualty%20Care/index.htm; Internet; accessed 28 December 2002.

capability is deemed necessary, the FST may augment other medical treatment units during stability and support operations."[66]

The FST's mission is to perform urgent initial surgery. It is generally a corps asset that is employed with or attached to Echelon II medical units such as a FSMC in support of combat operations. The FST, however, does not constitute Level III hospitalization and is not designed to operate as a stand-alone medical capability. Experience during Operation Enduring Freedom demonstrates an important characteristic of the future operational environment and the requirements of full spectrum operations. The theater and/or operational timeline may not support the deployment of the CSH necessary for doctrinal employment of the FST.

Feedback from medical units deployed during Operation Enduring Freedom consistently cites non-doctrinal employment of the FST and length of lines of communications for evacuation as challenges.[67] Non-doctrinal employment ranged from use of the FST to conduct routine and sick call care, a mission for which they are grossly overqualified to perform, to use in treating Enemy Prisoners of War (EPW) and DC, a mission for which they are not trained to perform. Both these instances impact the FST's ability to support follow-on operations for combat forces as doctrinally intended.

The non-doctrinal use of the FST's in Operation Enduring Freedom combined with previous instances of deploying portions of hospitals or creating ad-hoc task forces to meet mission requirements has generated an effort within the AMEDD to develop concepts for a Level III hospital with enhanced mobility and capability to support for full spectrum operations. As a direct result of formal AARs from Operation Enduring Freedom, the AMEDD formed an integrated concept team (ICT) specifically to address issues regarding casualty care. The

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[66] Headquarters, Department of the Army, *Field Manual 8-10-25, Employment of the Forward Surgical Team: Tactics, Techniques and Procedures*, (Washington, D.C.:30 September 1997), 2-1,2.
[67] *AMEDD Lessons Learned* information available from https://secure-ll.amedd.army.mil/ ; Internet; accessed 12 February 2003.

initiatives generated by this ICT are discussed in greater detail in Chapter Four of this monograph.

CHAPTER FOUR

DOCTRINE

According to Joint Publication 1, *Joint Warfare of the Armed Forces of the U.S.*, doctrine "offers a common perspective from which to plan and operate, and fundamentally shapes the way we think about and train for war."[68] Army Field Manual 3.0, *Operations* reinforces the complexity of the operational environment described in the current *National Military Strategy* as well as *Joint Vision 2020,* and directs the U.S. Army to prepare for full spectrum operations. A review of selected Joint, Army, and AMEDD current and evolving doctrine allows us to assess how well history and the organizations currently found in the AMEDD's force structure reflect the doctrine for meeting the needs of the future operational environment and full spectrum operations.

Field Manual 8-10, *Health Service Support in a Theater of Operations*, provides a comprehensive definition and description of Level III care, which includes the following passage:

> This echelon of care expands the support provided at Echelon II (Division level). Casualties who are unable to tolerate and survive movement over long distances will receive surgical care in a hospital as close to the division rear boundary as the tactical situation will allow. Echelon III characterizes the care that is provided by (Combat Support Hospitals). Tactical situation or lack of suitable terrain availability may require that these Echelon III units locate in offshore support facilities, third country support bases or in the COMMZ. Those whose injuries permit additional transportation without detriment receive surgical care in a hospital further to the rear…[69]

While this manual is twelve years old and outdated in terms of the current operational environment, it does acknowledge the fact that in some cases, the tactical situation, or lack of suitable terrain availability may prohibit Level III units from maintaining a smooth continuum of care. Because deviation from the optimal continuum of care was exceptional for that time, the

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[68] Department of Defense, *Joint Publication 1: Joint Warfare of the Armed Forces of the U.S.*(Washington, D.C.:Government Printing Office, 1995),iv.
[69] U.S. Department of the Army, *Field Manual 8-10, Health Service Support in a Theater of Operations.* (Washington, D.C.:Government Printing Office, 1991), 3-1.

doctrine offers little guidance on how to overcome these conditions and the force structure continued to maintain a large, Cold War era hospital structure.

This doctrine primarily assumes achievement of a smooth continuum of care and treatment "by moving the patient through a progressive, phased HSS system, extending from the forward area of the CZ to the area as far rearward as the patient's condition requires, possibly to the continental United States (CONUS). Each type of health service support (HSS) unit contributes a measured, logical increment appropriate to its location and capabilities."[70] This passage reflects the vision of support on a linear battlefield with a mature theater in depth that allows phasing of healthcare. Evacuation to CONUS is only a possibility in this doctrine in contrast to today's operational doctrine that calls for immediate evacuation out of theater. What was an exception in 1991 is characteristic of today's operational environment. Tactical situations under rapid deployment operations prohibit large support organizational structure. Basing rights impact the lines of evacuation and the capability necessary to meet mission requirements. Today's condition of lack of suitable terrain expands beyond sheer physical qualities of the environment to other conditions such as basing rights, opposed entry, and maintenance of doctrinal footprint. Again, the competing interests of mobility and capability are in conflict.

To accommodate the shifts in the operational environment, joint medical doctrine focuses more on casualty prevention and intertheater evacuation of less stable patients and relies less on in-theater hospitalization of the wounded. Joint Publication 4-02,*Doctrine for Health Service Support in Joint Operations*, represents a more current doctrine for examination. It reinforces the need for mobility and flexibility and describes a significant paradigm shift for the AMEDD. Identified in this doctrine are six principles of health service support.[71] Three of these principles

[70] U.S. Department of the Army, *Field Manual 8-10, Health Service Support in a Theater of Operations.* (Washington, D.C.:Government Printing Office, 1991), 3-4.
[71] Department of Defense, *Joint Publication 4-02, Doctrine for Health Service Support in Joint Operations*, (Washington, D.C., Government Printing Office: July 2001), 7.

directly correlate to the criteria of mobility and flexibility identified as critical for Level III hospitalization.

Joint HSS doctrine defines the principle of mobility as anticipating the need for rapid movement of health service support resources to support combat forces during operations.[72] The principles of responsiveness and flexibility directly reflect the criteria of flexibility and identify critical characteristics. Responsiveness provides timely access to health service support through proximity to forces. Tactical mobility is key to enabling responsiveness. Similarly, flexibility enables health service support resources to accommodate changes in tactical plans and operations. The operational environment described previously is proof that mobility and flexibility are essential for support of full spectrum operations that anticipate rapid shifts in tactical plans and operations.

Notable for the AMEDD is the acknowledgement that "The past HSS concept of providing definitive care in theater to maximize returned to duty (RTD) status has evolved to a concept that provides essential care in theater to either RTD within the theater patient movement policy or stabilize for patient movement to the next level of care…"[73] Joint HSS doctrine addresses the implications of this new concept on evacuation capability and the personnel system, however, it does not directly address the implication for the AMEDD to transform its Level III capability to effectively reduce its footprint in theater and replace definitive care in theater with essential care in theater.

Joint HSS doctrine describes the relationship between the *National Military Strategy* and Force Health Protection in terms of three pillars. Theater hospitalization falls under the pillar of casualty care management. The five phases of casualty care management include the two phases of forward resuscitative surgery and theater hospitalization. Forward resuscitative surgery, Phase II of the casualty care management pillar, is "required to render a patient stabilized enough to

[72] Ibid..
[73] Ibid., I-2.

withstand further movement to the next level of care…The capabilities, locations, and relationships of far forward surgical units to first responders and to more definitive levels of care must be clearly delineated and communicated throughout the joint force."[74] This statement, contained in doctrine, definitively illustrates the challenge of the AMEDD in developing the right size and capability of Level III care that can bridge the far forward surgical units to the more definitive levels of care without compromising proximity to first responders. Phase III is theater hospitalization which prepares patients who require a higher level of care for evacuation out of theater. The historical case studies demonstrate and doctrine foreshadows significant challenges in determining the capability, location and relationships of levels of care for each operation.

Field Manual 4-02.10, Theater Hospitalization, published in December 2000, provides a current doctrine for employment of the MRI Combat Support Hospital. The preface to this manual acknowledges that the new CSH structure is based on "lessons learned from Desert Storm, recent contingency operations and the future warfight."[75] The manual begins by identifying the Army Medical Battlefield Rules in order of precedence. The first and foremost rule is "Be There"[76]. From both a strategic and operational perspective it is essential that the AMEDD assets effectively maintain a presence on the battlefield to perform their mission. The priority of this rule above all others reinforces the need for mobility.

The principles of CHS outlined in *Theater Hospitalization* deviate slightly from joint medical doctrine. The principle of responsiveness in joint doctrine is replaced by proximity in Army doctrine with minor change in interpretation of meaning. The principle of mobility in Army doctrine more specifically addresses the ability to move personnel and equipment using organic transportation, addressing a historical problem associated with the CSH – its overall size and inability to move itself without significant external transportation support.

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[74] Ibid., I-1.
[75]U.S. Department of the Army, *Field Manual 4-02.10, Theater Hospitalization,* (Washington, D.C.:29 December 2000) vii.
[76]Ibid.,1-2.

Theater Hospitalization summarizes the differences between the EAC CSH and the corps CSH. In the EAC CSH, the 164-bed company augments the 84-bed company with additional capability, reducing the supply, services, and mobility of the overall organization. The corps CSH, however, has split-based capability. The 84-bed and 164-bed companies are fully functional, stand alone hospitals that can deploy independently and have enhanced mobility to achieve split-based operations. The concept for employment of the corps CSH states that the 84-bed hospital is capable of stand-alone operations for up to 30 days without augmentation from the parent unit. While the corps CSH is more mobile than the EAC CSH it does not achieve the intent of the joint health service doctrine's definition of mobility, which calls for "rapid movement of health support resources to support combat forces during operations."[77] The 84-bed company is only 35% mobile while the 164-bed company has no mobility. The 84-bed hospital company can echelon its deployment with a 44-bed increment, however this 44-bed increment requires immediate follow-on of the remainder of the company. Compounding the mobility challenges associated with employment of the corps CSH is the fact that once established, a corps CSH is difficult to move. Doctrinal planning factors recommend a maximum movement of one time every 25-days with 72 hours to prepare for relocation and another 72 hours to become completely operational in the new location. These factors contradict the anticipated tempo of the future operational environment and do not reflect mobility and capability required for full spectrum operations.

While the changes made to the CSH under MRI successfully streamlined the AMEDD's wartime hospital structure and correctly addressed shortfalls in mobility and flexibility by making necessary distinctions between the corps CSH and the EAC CSH, these efforts are inconsistent with other sources of doctrine that describe the requirements of the future operational environment.

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[77] U.S. Department of Defense, *Joint Publication 4.02, Doctrine for Health Service Support in Joint Operations*, (U.S. Government Printing Office, Washington, D.C., 30 July 2001), vi.

Training and Doctrine Command (TRADOC) Pamphlet 525-50, *Operational Concept for Combat Health Support* provides the basis for developing all aspects of combat health support operations and provides the framework to describe the capabilities required to meet the needs of a force projection Army. This document "provides the conceptual foundations of combat health support as (the AMEDD) moves into the twenty-first century. It is the Army Medical Department's evolving vision of future medical operations and organizational designs. It is influenced by the strategic, operational and tactical levels of war, and supports all mission requirements across the operational continuum."[78] This evolving vision recognizes and identifies the inherent challenges of supporting the Army in the twenty-first century.

Objective Force doctrine calls for combat units to be "masters of transition" stating "although necessarily optimized for offensive operations in major theater war, the Objective Force must be equally effective at every point on the spectrum."[79] The implication is that support units must be masters of transition as well to effectively support combat units in full spectrum operations.

The AMEDD has identified its challenges in supporting the Objective Force as the expanded battle space, greater dispersion of medical capabilities, limited medical footprint, and lack of air medical evacuation in initial 72 hours of deployment.[80] All these challenges have implications in terms of the Level III capability that the AMEDD needs to meet the mission requirements. The expanded battle space hinders the AMEDD's ability to provide a smooth continuum of care. Previous force structure assumed a linear battlefield with a theater in depth where a casualty easily moved between echelons of care. The greater dispersion of medical capabilities makes that movement between echelons problematic.

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[78] U.S.Department of the Army, *TRADOC Pam 525-50, Operational Concept for Combat Health Support*, (Washington, D.C.: October 1996), 5.
[79] U.S.Department of the Army, *TRADOC Pam 525-3-90, Military Operations, Objective Force Maneuver Units of Action*, (Washington, D.C.: 1 November 2002), 6.
[80] U.S.Department of the Army, *TRADOC Pam 525-50, Operational Concept for Combat Health Support*, (Washington, D.C.: October 1996), 4.

The long lines of communication produced by this expanded battle space are compounded by the lack of initial air medical evacuation and create a requirement for redundant capability at all levels of medical care. The FSTs participating in Operation Enduring Freedom experienced the challenges of expanded battlespace and long lines of communications first-hand. The requirement to increase capability to compensate for the expanded battle space, long lines of communication and dispersion of levels of care on the battlefield is contradictory to the notion of achieving a smaller footprint. Just as the CMF attempted to balance the challenge of "the inverse relationship between enhanced capability and rapid deployability" the relationship between enhanced capability and smaller footprint is just as inverse.

AMEDD doctrine recognizes the requirements of full spectrum operations; however force structure requires examination to live up to the capability espoused in doctrine. The patterns of complexity identified through the historical case studies examined represent a characteristic the AMEDD must be structured to accommodate through mobility and flexibility.

CHAPTER FIVE

AMEDD INITIATIVES

The AMEDD faces some long-term challenges in supporting future operational concepts. The future operational concept employed during a series of Army wargames, Advanced Full Dimensional Operations (AFDO), explicitly promises to end conflicts rapidly and, therefore, implies lower casualties. During the games, however, casualties were higher than expected for early-entry forces, and it appeared that the AFDO concept would present significant challenges for AMEDD.

The AMEDD After Next Joint Medical Wargame 2000 resulted in dramatic observations about combat casualty care in future operations that shaped initiatives currently under review to enable the AMEDD to meet the requirements of full spectrum operations in terms of mobility and flexibility.[81] Different casualty patterns are expected that require a new approach to casualty care on the battlefield. Providing care to early casualties will be critical to mission success and increasingly complex to achieve when the logistics footprint is limited. Mobility and capability become even more critical so that efficiency can be achieved without compromising the success of the operational mission.

Scenarios explored by the wargame included rapid movement followed by brief, lethal engagements which reinforced the need for flexible, modular, highly capable medical units with the smallest possible footprint that can deploy on a moment's notice. The most challenging scenario is direct CONUS to theater deployment without an intermediate staging base.

Compounding this challenge is the possibility of forced entry operations where significant casualties will occur before robust hospital capability can be established in theater. The doctrinal shift from maximizing return to duty patients prior to evacuation out of theater to

[81] Center for Healthcare Education and Studies, *AMEDD After Next Joint Medical Wargame 2000: Final Report*, (San Antonio, TX, Army Medical Department Center and School: 23 August 2000), 2.

stabilizing casualties far forward and rapid evacuation out of theater presents the potential to reduce the logistics footprint. This doctrine is not without risk and longer evacuation legs may not be viable based on threat and basing considerations. To mitigate the risks associated with trading evacuation capacity for Level III hospitalization capability, the AMEDD is currently perusing two alternatives for a more robust capability that achieves mobility and flexibility.

The first concept is a Forward Army Surgical Hospital (FASH) that uses the existing FST as the core building block and adds augmentation modules as needed. The historical case studies demonstrated that the FST possesses desirable mobility and has become the organization of choice for recent deployments. The incidence of non-doctrinal employment of the FST indicates that while the mobility is desirable, shortfalls exist in its capability. The concept requirements for the FASH address mobility by stipulating that the organization must be C130 deployable and 100% tactically mobile using organic transportation. The augmentation modules address capability by adding area support capability that enables the organization to operate for 7-10 days before resupply. The current FST can only operate for 72 hours before requiring resupply.

Using the FST as the core, the FASH has three variations that can deploy based on mission requirements. The variations include a 10-bed FASH, 20-bed FASH, and 20-bed FASH with additional operating room (OR) capabilities. Among various ancillary services such as lab, x-ray, and maintenance, the 10-bed FASH adds a 10 bed Intensive Care Unit (ICU) to the existing FST structure, enabling a holding capability for critically injured and ill patients that require continuous care. This capability specifically mitigates the risk of breakdowns in the evacuation lines of communication. Outpatient treatment capability by an emergency physician contained in this module also relieves the surgeons assigned to the FST from performing sick-call type functions that have previously been the primary non-doctrinal use of this asset. The 20-bed module adds another 10 bed ICU to expand holding capability. OR augmentation enables the FASH to conduct sustained operations 24-hours a day. The third variation of the FASH adds another FST to double the surgical capability.

All three FASH variations recognize the need for a hospital capability that can expand and respond to fluctuations in both quantity and type of casualties. This is a relevant and accurate approach based on the requirements of full spectrum operations and historical challenges of expecting a "one-size fits all" CSH to smoothly transition from conflict to SASO. Variations of this organization provide the planner maximum flexibility to accommodate casualty estimates prior to deployment or adjust forces deployed based on changes to the operation and situation without compromising the readiness of other organizations.

The second concept currently under consideration is a Forward Surgical Hospital (FSH). The concept is based on the MASH structure with a more deliberate attempt to modularize capability. The objective for the design of this concept was to develop a small, surgically intensive, highly mobile hospital that provides early-entry basic Level III hospitalization far forward on the battlefield and can expand, as the mission requires. Like the FASH, the FSH concept requires that the organization be C130 deployable, 100% tactically mobile using organic equipment and provide required support for 7 days without resupply. This concept specifically aims to leverage technology to reduce weight and cube enhancing strategic and operational mobility. There are two variations of the FSH, a 10-bed and a 20-bed hospital. The capabilities of these organizations mirror the 10 and 20-bed increments of the FASH.

Both initiatives represent a significant move by the AMEDD to generate the structure necessary to meet the needs of full spectrum operations. There is no apparent distinction between the two proposals other than the FASH can expand to 30 beds while the FSH can only expand to 20 beds. Both were designed using the same set of design criteria. Relevant to this research is the fact that both represent a degree of mobility and flexibility that is not only more aligned with emerging doctrine but incorporates many of the practical lessons learned from recent deployments.

CHAPTER SIX

CONCLUSION

The U.S. Army School of Advanced Military Studies uses a model of theory, history and doctrine to teach officers how to think about a problem. The author used a variation of this model as a lens to analyze the AMEDD's ability to support full spectrum operations. In place of theory the author analyzed National, Joint, and Army documents that provide predictions regarding the future operational environment, insight to strategy for addressing the future operational environment, and guidance that shapes the development of subordinate unit strategy. Case studies of post-Cold War operations involving AMEDD Level III hospital organizations provide historical precedent. AMEDD and Joint HSS doctrine provide are used to evaluate how well the historical deployments represent the doctrine and how well the doctrine articulates and is synchronized with National, Joint and Army strategy.

Analysis of National, Joint and Army documents primarily provide a foundation on which to evaluate organizations and doctrine in terms of ability to meet the overall strategy for the future operational environment. From these documents comes a clear understanding of specific priorities being placed on organizations to develop into more mobile, flexible entities.

The case studies described in Chapter Three represent the history aspect of the model. Analysis of Operations Provide Comfort, Restore Hope, Allied Force, and Enduring Freedom illustrate that the AMEDD has successfully supported recent operations, to include small-scale contingency operations. The repeated method of doing so using fragmented hospital units and non-doctrinal use of units such as the Forward Surgical Team, however, indicate the force structure is not optimized for this type operation. The lack of employment of the MRI CSH in the four deployments analyzed is notable given the fact that the MRI CSH was specifically designed to provide the modularity that would give necessary mobility and flexibility for these types of

operations. The continued fragmentation of existing hospital units and non-doctrinal use of units that possess mobility and flexibility, such as the FST and the FSMC indicates that the author's hypothesis, that the MRI CSH structure is too large to support small-scale contingencies below the Corps level, is correct.

Analysis of doctrine reveals consistency with the National, Joint and Army strategy. Overall, AMEDD and Joint Health Service Support doctrine fully support the strategies, goals and initiatives of higher levels. Doctrine provided the definitions for the criteria of mobility and flexibility used in this monograph. These definitions demonstrate the primacy of these characteristics in theory while the case studies demonstrated the force structure challenges in displaying these characteristics. The consistency between strategy and doctrine caused the author to further focus on the element of force structure as the fundamental element of the AMEDD's ability to support full spectrum operations.

Current AMEDD initiatives outlined in Chapter Four indicate the AMEDD's recognition of a need for a more mobile, flexible hospital increment to support full spectrum operations. When the author began research for this monograph, initial contact was made with the Deputy Director of Force Integration at the AMEDD Center and School. This individual acknowledged the validity of the research and remarked that the solution was to bring back the MASH. After receiving the information for current proposals for the FASH and FSH structure it appears the AMEDD is not far from resurrecting the MASH. It is the author's conclusion and subsequent recommendation that any of the MASH, FASH, or FSH structures would provide adequate mobility and flexibility to meet the needs of full spectrum operations, particularly small-scale contingency operations below the Corps level.

The criteria of mobility and flexibility consistently proved desirable and necessary for organizations to support full spectrum operations. The smaller, more mobile FASH and FSH fulfill the requirements under the Department of Defense definition of mobility by providing "a capability of military forces which permits them to move from place to place while retaining the

ability to fulfill their primary mission."[82] The modularity of the FASH and FSH also fulfills the criteria under the joint health service support doctrine's definition of flexibility as the "ability to shift health service support resources to meet changing requirements"[83] through the ability to incrementally build capability according to mission requirements and patient estimates. Analysis of strategy, history and doctrine confirms the author's original assertion that the AMEDD's force structure does not fully support full spectrum operations with Level III hospital capability. The Medical Reengineering Initiative (MRI) Combat Support Hospital (CSH) does not have adequate mobility or flexibility to support small-scale contingencies below the Corps level. The frequency of AMEDD deployments on this scale and case studies outlining the fragmentation of AMEDD assets to meet mission requirements reinforce the point that the MRI CSH has not adequately achieved optimal mobility and flexibility to remain relevant for full spectrum operations.

Joint Vision 2020's acknowledgement that "Conflict results in casualties despite our best efforts to minimize them, and will continue to do so when the force has achieved full spectrum dominance"[84] reaffirms the need for the AMEDD to adopt a force structure that is mobile and flexible enough to support full spectrum operations. The proposed FASH and the FSH concepts achieve a reduced logistics footprint as directed by *Joint Vision 2020* and possess the capability to expand capability to adhere to the principles of peak methodology.

Using the modularity of the FASH and FSH concepts, the AMEDD accomplishes the mandate contained in the *National Military Strategy* to "undertake organizational changes that increase the flexibility, utility and effectiveness"[85] of the joint force.

While the MRI CSH was designed to address the need for mobility and flexibility in the post-Cold War environment, the doctrine and structure of this organization is still oriented to

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[82] U.S. Department of Defense Dictionary, available from http://www.dtic.mil/doctrine/jel/doddict/data.html; Internet; accessed 11 February 2003.
[83] U.S. Department of Defense, *Joint Publication 4.02, Doctrine for Health Service Support in Joint Operations,* (U.S. Government Printing Office, Washington, D.C., 30 July 2001), vi.
[84] U.S. Department of Defense, *Joint Vision 2020,* (Washington, D.C.:U.S. Government Printing Office), 4.
[85] U.S. Department of Defense, Pre- decisional draft of the *National Military Strategy dtd 10.23/02*, 8.

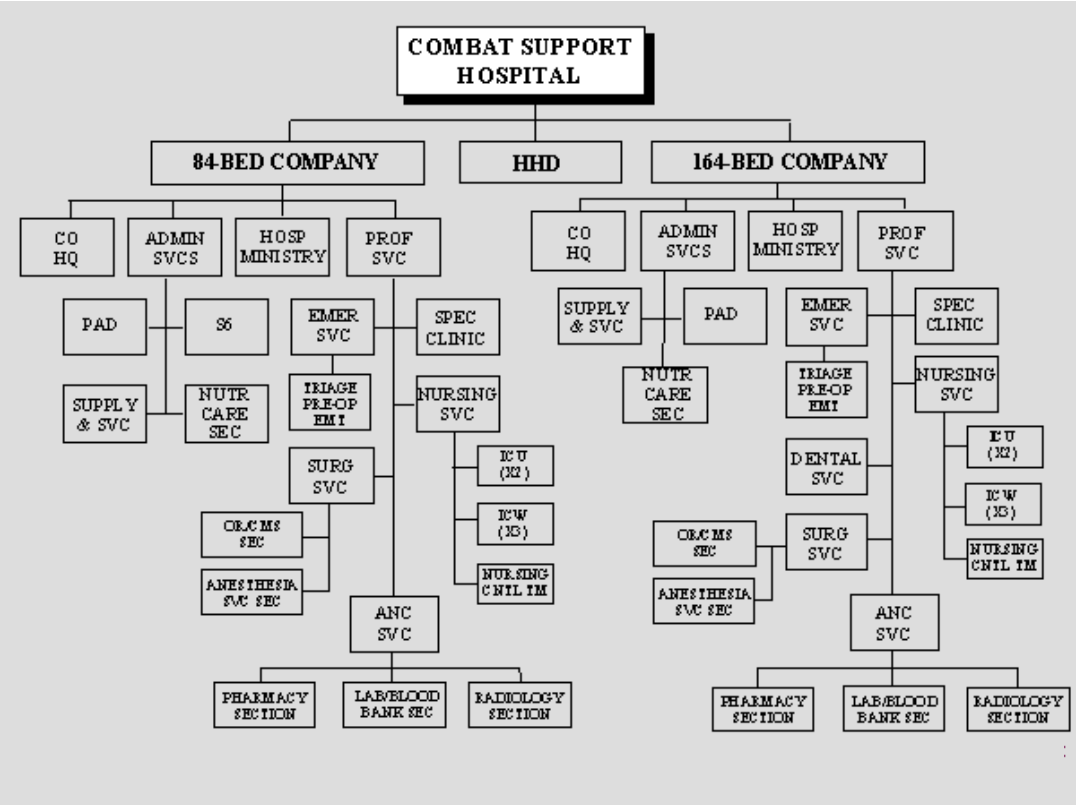
support EAD and EAC MTW scenarios. Actual deployment data and emerging doctrine indicate the AMEDD is not structured to support the low end of full spectrum operations in terms of mobility and flexibility. The FASH and FSH provide a viable alternative to the ad-hoc organizations the AMEDD has relied on since Operation Desert Storm. The FASH and FSH represent organizational concepts developed with the nature of both the current and future operational environment in mind. These concepts appropriately seek modularity that will enhance the AMEDD's ability to support full spectrum operations.

There are minor distinctions between the FASH and FSH concepts. Either concept advances the AMEDD's ability to support full spectrum operations in terms of mobility and flexibility. While the CSH remains a viable organization to support the MTW end of full spectrum operations, the FASH and FSH concepts provide an alternative to ad-hoc organizations for Level III hospital support for small-scale contingency operations below the corps level.

Major General Rupert Smith, Commander of the 1(UK) Division during Desert Storm eloquently remarked "The only certain result of your plan will be casualties – mainly the enemy if it is a good plan, yours if it's not. Either way, foremost in your supporting plans must be the medical plan."[86] Central to formulating a solid medical plan is an adequate force structure that is mobile and flexible enough to support mission requirements. The FASH and FSH provide this structure and should be resourced by the AMEDD as a means to fulfill the AMEDD mission "To Conserve the Fighting Strength" during full spectrum operations in the future.

[86] Maj Gen Rupert Smith Commander 1(UK) Armd Div, Operation Desert Storm, 1991.

Appendix 1 – MRI Combat Support Hospital Structure

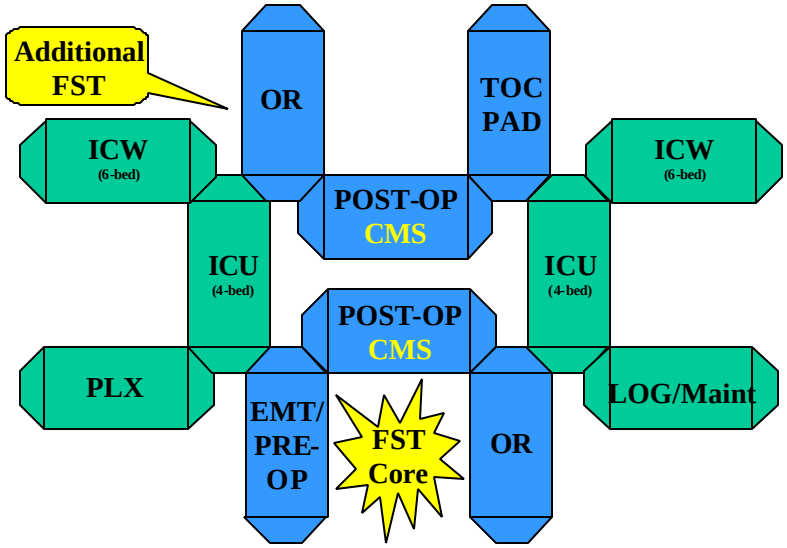


Appendix 2 – CSH Strategic Mobility Data

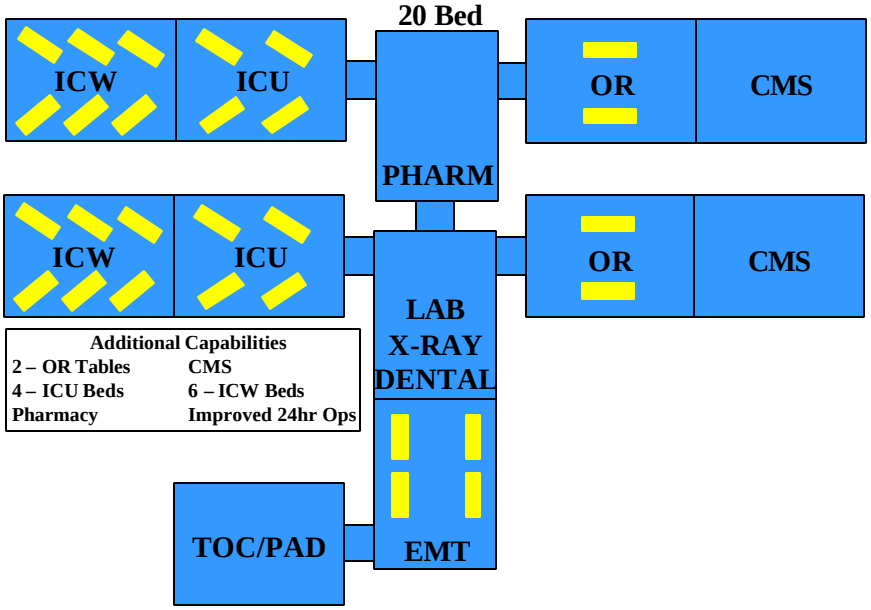
CAPABILITY	CSH, 84 Bed Co (MRI)	CSH, HHD & 84 Bed Co Corps (MRI) Plus Min Care Det	CSH, 296 Bed Co Corps (MF2K)
Deployability-Air (less vehicles)	3 C-5 (*2)	5 C-5	8 C5
Deployability-Air (with vehicles)	11 C-5 (*6)	14 C-5	14 C5
Deployability-Surface (less vehicles)	2.7% LMSR	3.7% LMSR	7.7% LMSR
Deployability-Surface (with vehicles)	5.4% LMSR	7.5% LMSR	14% LMSR
EMT Section	Yes	Yes	Yes
Beds - ICU	24	24	96
Beds - Intermediate	60 (*20)	60	160
Beds - Minimal	0	120	40
OR Tables	2	2	8
CMS	Yes	Yes	Yes
Pharmacy	Yes	Yes	Yes
Laboratory	Yes	Yes	Yes
XRay	Yes	Yes	Yes
Operational Duration without Res upply	10 Days (*3)	10 Days	10 Days

*Denotes 1st Echelon, CSH, 84 Bed Co (MRI) changes to deployability requirements/capability

Forward Army Surgical Hospital (FASH)
20 Bed + OR Augmentation



Forward Surgical Hospital (FSH)
20 Bed



Additional Capabilities	
2 – OR Tables	CMS
4 – ICU Beds	6 – ICW Beds
Pharmacy	Improved 24hr Ops

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