

# **Medical Logistics in a New Theater of Operations: An Operation Iraqi Freedom Case Study**

**A Monograph  
by  
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Military Service**



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## **Abstract**

**MEDICAL LOGISTICS IN A NEW THEATER OF OPERATIONS: AN OPERATION IRAQI FREEDOM CASE STUDY**, by MAJ Douglas H. Galuszka, United States Army, 72 pages.

This is a study of the medical logistics system that supported the U.S. forces in the maneuver phase of the Iraq War, 20 March to 1 May 2003. It begins with a review of logistical lessons learned from retired logisticians stretching from World War II to the Gulf War with an emphasis on the challenges in building a logistical support system in a new theater of operations. Next, the evolution of U.S. Army medical logistics is reviewed leading up to the units, policies, and resources available to support the Iraq War. The creation of the medical logistical support system in Qatar and Kuwait is then described, stretching from the initial site selection for the regional medical logistical warehouse in the summer of 2002 through the execution of medical logistical support in the maneuver phase of the ground war in the spring of 2003. Finally, an evaluation of the performance of the medical logistic support, utilizing the lessons learned discussed earlier, is presented with recommendations for improved performance in the future.

This study concludes that the medical logistics support system was not functioning properly when the ground war began on 20 March 2003. Several factors contributed to the medical logistics problems, including garrison procedures not simulating field procedures, weak communications and a lack of infrastructure in Kuwait, but the late arrival of medical logistics units into Kuwait was the main reason for the poor performance of medical logistics in the Iraq War. While the medical community had been deeply involved in planning for the deployment, the decision by the Department of Defense to discard the Time Phased Force Deployment List in favor of a Force Package approach meant that many critical logistical units were pushed to the end of the deployment cycle. Instead of two medical logistical battalions and one medical logistical company supporting the Vth Corps units in Kuwait and Iraq, only the medical logistical company was present during the Reception, Staging, Onward Movement, and Integration phase and functioning during the opening weeks of the ground campaign. Since the medical logistics system was not functioning properly during the drive to Baghdad, the combat health support system was not capable of treating heavy casualties had they been encountered.

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## CHAPTER ONE

### INTRODUCTION

Logistics cannot be separated from tactics and strategy. It is a major factor in the execution of strategic and tactical conceptions, so inextricably interwoven that it is an integral part of each.<sup>1</sup>

1926 US Army Staff Text

Amateurs talk about strategy while professionals talk about logistics.<sup>2</sup>

Anonymous Military Maxim

Military operations and logistics are inextricably linked. The ability to transport, feed, maintain, arm, and fuel an army in the field is what enables a commander to conduct the strategic, operational, and tactical tasks necessary to fight the nation's wars. Very often it is not the combat units that decide the outcome of a campaign or battle, rather it is the logistical system that supports the field armies that plays the decisive role because "supply is the basis of strategy and tactics."<sup>3</sup>

Logistics is defined as "the practical art of moving armies and keeping them supplied,"<sup>4</sup> or more broadly, "that branch of administration which embraces the management and provision of supply, evacuation and hospitalization, transportation and service. It envisages getting the right people and appropriate supplies to the right place at the right time and in the proper

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<sup>1</sup>Charles R. Schrader, *United States Army Logistics, 1775-1992: An Anthology*, vol. 1 (Honolulu, HI: University Press of the Pacific, 2001), 23.

<sup>2</sup>Julian Thompson, *The Lifeblood of War: Logistics in Armed Conflict* (London: Brassey's, 1991), dustjacket.

<sup>3</sup>Department of the Army, Field Manual 4-0, *Combat Service Support* (Washington, DC: Department of the Army, August 2003), 1-19.

<sup>4</sup>Martin Van Creveld, *Supplying War* (Cambridge, United Kingdom: Cambridge University Press, 1977), 1.

condition.”<sup>5</sup> The objective of all logistical efforts is, “the creation and sustained support of effective combat forces.”<sup>6</sup>

One of the most difficult times to provide logistical support is when a new theater of operations is opened. Often the airport, seaport, and warehousing capabilities are not adequate to receive the mountains of supplies that are being pushed into the theater. The logisticians also have to ensure an early entry of logistical units to prepare for the arrival of the combat troops, not always possible when the focus of senior commanders is building up combat units for the future campaign. The communications network and the transportation assets are rarely able to meet the needs of the American forces in a new theater because of its intense use of information technologies and enormous quantities of supplies provided to U.S. soldiers. Because of these factors, providing logistical support for the opening months in a new theater is difficult and requires logistical planners to be involved in the decision making at the highest levels of command.

In today’s Army, the term logistician is used to describe soldiers working in the field of Combat Service Support (CSS). The purpose of CSS is, “to generate and sustain combat power and expand the commander’s operational reach,” which is basically the working definition of logistics. Nine separate functions are listed in CSS--supply and services, transportation support, ordnance support (both maintenance and explosive ordnance disposal), health services support, human resource support, financial management operations, legal support to operations, religious support, and band support.<sup>7</sup> Each of these functions has a distinct role in supporting troops and making victory possible. These functions then deal with ten classes of supply:

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<sup>5</sup>James A. Huston, *The Sirens of War: Army Logistics 1775-1953* (Washington, DC: Office of the Chief of Military History, 1966) vii-viii.

<sup>6</sup>Henry E. Eccles, *Logistics in the National Defense* (Harrisburg, PA: The Stackpole Company, 1959), 175.

<sup>7</sup>Field Manual 4-0, 1-6.



1. Class I--Subsistence, gratuitous health and comfort items
2. Class II--Clothing, individual equipment, tools, and others
3. Class III--Petroleum, fuels, lubricants, and others
4. Class IV--Construction and barrier materials, and others
5. Class V--Ammunition of all types
6. Class VI--Personal demand items (soaps, toothpaste, snack foods, beverages, and others)
7. Class VII--Major end items (tanks, vehicles, and others)
8. Class VIII--Medical materiel including repair parts particular to medical equipment
9. Class IX--Repair parts and components
10. Class X--Material to support non-military programs.<sup>8</sup>

In Operation Iraqi Freedom, the logistical system had significant challenges, many of which stemmed from the immature nature of the theater. None of the elements of the logistical system had greater challenges to overcome than medical logistics, which is the foundation of combat health support. In this paper, medical logistics, a sub-function of health services support, will be examined in detail. Because medical logistics touches virtually every aspect of the health services support, medical logistics must be functioning properly for health services support to function effectively. Medical logisticians not only ensure medical units are supplied with all the classes of supply but also ensure the Class VIII supplies are available for all the units of the army. These include items like pharmaceuticals, field dressings, and cough drops. They also provide equipment, which can range from litters to defibrillators. The maintenance of the medical equipment also falls under the responsibilities of the medical logisticians, always a challenge in a field environment. In fixed facilities, the medical logisticians are responsible for constructing, maintaining, and renovating the buildings. Medical logistics is a broad and complex field that is

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<sup>8</sup>Ibid., 4-0, 6-4.

vital to the medical professions; without the proper facility, equipment, and materiel, medical providers cannot support the Army.

In many ways, MEDLOG is the most difficult logistical function to perform. The specific transportation and storage requirements for medications, the highly technical and sensitive nature of the equipment, the varied materiel needs of clinicians, the vast resource consumption by hospitals, the peacetime “stove-piped,” or separate, nature of the medical department in relation to the rest of the logisticians, and the total lack of organic transportation assets for distribution of Class VIII means the challenges of the medical logistician are much greater than that of logisticians in the other logistical functions.

This paper will explore the medical logistics support provided to the U.S. military during the maneuver phase of the Iraq War. The main question to be answered is: Was the medical logistical system capable of providing adequate support to the U.S. military forces fighting in Iraq from 21 March to 1 May 2003. Additional aspects investigated are the challenges for medical logisticians in deploying into theater, communications for ordering supplies, the structure of the supply chain, peacetime verses wartime practices, and the command and control challenges.

If the purpose of studying military history is to gain insight into possible problems and solutions for future operations, then the lessons learned by U.S. Army logisticians in World War II, Korea, Vietnam, and the Gulf Wars will greatly assist planners opening the logistical system in a new theater. Chapter Two will explore the logistical lessons learned by retired senior logisticians of the Army and the Navy in regards to supporting operations in a newly opened theater, which was the greatest challenge for logisticians in the Iraq War. The lessons they provide are timeless and need to be understood by both logistical leaders and senior commanders to assist in future operations. Chapter Three will follow the evolution of the Army Medical Department and the creation of the modern medical logistics system. Only by understanding how the current system developed can a true understanding of the capabilities of the medical logistics system be found. Chapter Four will be an investigation of the execution of medical logistics in

the Iraq War. The investigation starts with the logistical build up in Qatar in the summer of 2002 and continues through the maneuver phase, ending 1 May 2003, the declared end of major combat operations. Each of these chapters is laying the groundwork to answer the question: Was medical logistics in the Iraq War capable of fulfilling its mission from 20 March to 1 May 2003? Chapter Five will be an analysis of the performance of medical logistics in the Iraq War to include recommendations to improve future performance. Many of the lessons learned in Chapter Two will be utilized in this evaluation. The goal of this paper is to provide non-logisticians and junior officers in the logistical and medical fields a broader understanding of the challenges faced when deploying to a new theater and preparing a logistical support structure.

## CHAPTER TWO

### LOGISTICAL LESSONS: OPENING A NEW THEATER OF OPERATIONS

You will not find it difficult to prove that battles, campaigns and even wars have been won or lost primarily because of logistics.<sup>9</sup>

General Dwight D. Eisenhower, 1945

Since the dawn of history, military strategy has been dominated by the inexorable calculus of logistics- distance, time, transport capacity, and consumption.<sup>10</sup>

Dr. Christopher R. Gabel

Conducting offensive campaigns inherently implies entering the land of an enemy and attacking their war making capabilities--their army, factories, agriculture, cities, and others. The offensive is only possible if an army can be sustained during a campaign. Because of this fact, commanders have had to ensure detailed planning and preparation has taken place to not only get their army to the fight, but to keep it supplied and maintained during and after battles.

There is an old saying cut into the stone at the National Archives entrance in Washington, DC, "The past is prologue." This means what human beings have done in the past will be done again in the future. The goal of history is to gain insight from what their ancestors went through and use that knowledge to better prepare themselves for future challenges. Fail to learn from the past, and the same mistakes can be made.

As Lieutenant Colonel George C. Thorpe wrote in 1917 in his groundbreaking study of logistics, *Pure Logistics: The Science of War Preparation*, "history repeats itself, war after war, giving the world story after story of muddled preparation of the means of fighting . . . the

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<sup>9</sup>Douglas H. Galuszka, "Logistics in Warfare: The Significance of Logistics in the Army of the Cumberland During the Tullahoma and Chickamauga Campaigns" (Thesis, US Army Command and General Staff College, Fort Leavenworth, KS, 2005), 171.

<sup>10</sup>Christopher R. Gabel, *Railroad Generalship: Foundations of Civil War Strategy* (Fort Leavenworth, KS: Combat Studies Institute, 1997), 1.

conclusion is irresistible that the military themselves know next to nothing about logistics.”<sup>11</sup>

The lack of understanding of logistics is a great weakness of the military today. In 1945 a committee investigating World War II logistics wrote, “In the future there will be no excuse for repeating the mistakes about which we learned through the painful process of experience.”<sup>12</sup> Yet many of the same mistakes were made in all the American wars right up to Operation Iraqi Freedom.

The study of military history, of which logistics must play a prominent role, is necessary in developing leaders in the military. As General Douglas MacArthur said, “More than most professions, the military is forced to depend on intelligent interpretations of the past for signposts charting the future.”<sup>13</sup> While every situation is different, the need for an understanding of past performance and lessons learned will undoubtedly enable better decisions to be made in current operations. Martin Van Creveld writes in, *Supplying War: Logistics From Wallenstein to Patton*, “Hundreds of books on strategy and tactics have been written for every one on logistics . . . this lack of regard is in spite of--or perhaps because--of the fact that logistics makes up as much as nine tenths of the business of war.”<sup>14</sup> As Lieutenant General William G. Pagonis, the senior US logistician in the theater during the Gulf War of 1990 to 1991 said of this poorly studied aspect of the military, “Logistics is traditionally an unglamorous and underappreciated activity. To generalize, when the battle is going well, the strategist and tactician are lionized; it is only when the tanks run out of gas that people go head-hunting for the logisticians.”<sup>15</sup> What must be acknowledged is the importance of logistics in war and the need to lay sound logistical foundation in peacetime to enable success when a conflict occurs. The preparation in peacetime

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<sup>11</sup>George C. Thorpe, *Pure Logistics: The Science of War Preparation* (Kansas City, MO: Franklin Hudson Publishing, 1917), 3, 6.

<sup>12</sup>Huston, ix.

<sup>13</sup>David C. Rutenberg and Jane S. Allen, *The Logistics of Waging War: American Logistics 1774-1985: Emphasizing the Development of Airpower* (Gunter Air Force Base, AL: U.S. Government Printing Office, 1988), 1.

<sup>14</sup>Van Creveld, 231.

<sup>15</sup>William G. Pagonis, *Moving Mountains: Lessons in Leadership and Logistics from the Gulf War* (Boston, MA: Harvard Business School Press, 1992), x.

must include studying past challenges that logisticians have faced to help guide planners and logisticians in supporting future operations.<sup>16</sup>

The ability to quickly project a nation's power halfway around the world is now a critical element in warfare. Therefore, the early decisions made in selecting sites, organizing and operating seaports and airports are critical to success. Mistakes made in the early weeks and months after opening a new theater will have enormous implications on the conduct of the future operations. The rest of this chapter will explore logistical lessons learned, with an emphasis on opening new theaters, from World War II to the Gulf War. These lessons are gleaned from books by the following retired officers--Rear Admiral (RADM) Henry E. Eccles, a destroyer commander and logistical planner in the Office of the Vice Chief of Naval Operations in World War II; General Carter B. Magruder, a planner in the Army G-4 during World War II and the Deputy Chief of Staff for Logistics from 1955 to 1959; Lieutenant General Joseph M. Heiser, Jr., an ordnance officer and Deputy Chief of Staff for Logistics from 1969 to 1972; Lieutenant General Jack C. Fuson, a transportation officer and Deputy Chief of Staff for Logistics from 1975 to 1977; and Lieutenant General William G. Pagonis, a transportation officer and senior logistician in theater during the Gulf War where he commanded the 22d Support Command.

RADM Eccles stresses in his book, *Logistics in the National Defense*, that one of the key problems with logisticians is that many think only in technical terms, they know their specific commodity very well but do not think with a broad logistics terms. RADM Eccles believed that a real "logistics viewpoint" must be from that of the commander, "the command point of view is that logistics itself has no purpose other than to create and to support forces which are responsive to the needs of the commander."<sup>17</sup> A logistician that cannot only understand their commodity or service, but also see how all logistical commodities and services can empower the whole army, is a logistician most needed by a commander.

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<sup>16</sup>Thompson, 4.

<sup>17</sup>Eccles, 175, 9.

According to RADM Eccles, peacetime practices often lead logisticians and planners into the illusion of readiness without any real substance. This is especially true in regards to the tactics and techniques of theater logistics. While techniques of tactical logistics are under constant scrutiny and improvement, theater logistics practices are frequently imperfect and often neglected in peacetime.<sup>18</sup>

The major obstacles to effective logistical planning and preparations lay outside of the logistical process itself and beyond the jurisdiction of the logistical agencies. Often, specific strategic objectives cannot be fixed far in advance. This will affect logisticians since adequate logistical preparations depend on early answers to numerous questions.<sup>19</sup>

Logistical troops must precede most of the combat forces into a new theater of operations. They must be there to receive equipment and supplies, prepare depots and other accommodations, and provide essential services for the units, which follow. It is through these preparations that the commander gains the ability to have his plans executed and builds the flexibility he needs to react to changing situations.<sup>20</sup>

If the logistical support for an operation is inadequate at the beginning, experience has shown that the eventual commitment of logistics to correct the deficiency will be lavish and wasteful. Under-planning produces over-planning.<sup>21</sup>

RADM Eccles found that the faster an army intends to advance and the more violent the blow it intends to strike, the larger the logistical tail must be to sustain the operation. The inability to exploit a tactical success then prolongs the campaign. This in turn increases the logistical resources needed to achieve the objective, much more so than would have been needed had adequate support been provided from the start.<sup>22</sup>

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<sup>18</sup>Ibid., 66 and 293.

<sup>19</sup>Ibid., 31.

<sup>20</sup>Ibid., 59 and 134.

<sup>21</sup>Ibid., 108.

<sup>22</sup>Ibid.

It is no great matter to change tactical plans and send troops in a new direction. But to adjust supply plans to the altered tactical scheme is always very difficult. It can involve relocating vast depots and materiel, which must flow to fighting troops in an uninterrupted stream. Commanders, not just the logisticians, must understand the cause and effect relationships between different logistical services and commodities so that the effect of a gain or loss of any particular piece of the system can be understood on the system as a whole.<sup>23</sup>

RADM Eccles wrote that a logistical system can look deceptively effective when the planned for enemy actions do not happen and the system is not stressed or tested. This can lead to a false sense of security in a system that can not really produce its intended effect.<sup>24</sup>

In his book, *Recurring Logistical Problems As I Have Observed Them*, General Magruder stated that the first logistical problem that must be dealt with is the determination of supply and service requirements for an operation. Nothing else can be done until the amounts of supplies, equipment, and personnel can be determined, it is only from this that the feasibility of the operation can be determined--can the supplies be obtained, where would they be shipped from and received, and most importantly, is there enough transportation assets to move the required supplies to the theater and distribute them to the troops?<sup>25</sup>

The opening months in any new theater are difficult to support because consumption rate history is not developed, procedures for ordering and distributing supplies are not solidified by experience, adequate personnel, storage facilities, and transportation assets are not available, and the initial flow of supplies to a new theater is always inaccurate and will inevitably contain excesses and shortages. The logisticians on the ground will not always be able to send accurate orders for their requirements due to the confusion of the situation. A predetermined list of supplies, a push package, must be automatically forwarded to them on a regular basis. This can

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<sup>23</sup>Ibid., 40, 317.

<sup>24</sup>Ibid., 167-168.

<sup>25</sup>Carter B. Magruder, *Recurring Logistical Problems As I Have Observed Them* (Washington, DC: U.S. Government Printing Office, 1991), 3, 40.



be a wasteful endeavor, the units on the ground can have excess of the very supplies you are sending them and therefore will abandon the excess.<sup>26</sup>

The reason there is always a shortage of logistical troops in a new theater is because of manpower ceilings the Army uses during deployments that limit the total number allowed in a theater. Because of this, there is always competition between support and combat troops. General Magruder believed there must be a balance of both. If they are imbalanced, the capability of the combat troops will be degraded and the resulting effect will be a lengthening of the campaign. Logistical troop requirements should always be questioned to keep them to a minimum. But once they are justified, then they must be considered just as vital to the success of the operation as the combat troops. The need for logistical troops precedes the need for combat troops in a theater. In war after war, the combat troops were unable to receive the supplies and equipment that they required because trained logistical troops were not available in the numbers needed to balance the combat troops sent overseas.<sup>27</sup>

Standardization of equipment and supplies is important because it reduces the strain on the maintenance and supply units. By having a smaller number of items they must provide, they can better track, order, and distribute supplies and parts. Non-standard equipment is difficult to keep operating in the field, and non-standard supplies are difficult to procure through regular supply channels.<sup>28</sup>

Computers have become a valuable tool to conduct large repetitive actions, such as tracking inventory in a warehouse. But they cannot replace professional judgment since the variables in war create situations that computers cannot account for.<sup>29</sup>

General Magruder stresses in his final chapter that he has stated very little that would be considered new in the field of logistics. What he has stated are issues that are continually

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<sup>26</sup>Ibid., 3-5, 8-9.

<sup>27</sup>Ibid., 25, 27, 30.

<sup>28</sup>Ibid., 37, 78-79.

<sup>29</sup>Ibid., 70-71.

forgotten by the military between conflicts. This usually happens because peacetime economies and efficiencies become the focus and not preparations for effective operations in war.<sup>30</sup>

Lieutenant General Heiser writes in his books, *A Soldier Supporting Soldiers*, that the keys to modern logistics are transportation, communications, and automation. They enable “just in time” logistics to function properly. Lack of communications and transportation during a campaign severely hampers logistical operations. This is inevitable, especially in the opening stages of the campaign and must be planned for. He stresses that transportation in a theater is a key element of logistical flexibility during a crisis. The United States can ship supplies and materiel into a theater much more effectively and efficiently than the theater can unload and distribute these supplies.<sup>31</sup>

Lack of command and control by logistical commanders can lead to deterioration of support. Not looking ahead to see potential problems, poor discipline, poor movement control of transportation assets, and bad coordination between staffs are all part of poor command and control and lead to inflexibility during a campaign. In Europe during World War II, combat forces claimed that they never had enough supplies where they were needed. This led to considerable animosity at all levels directed toward those responsible for support right up to the end of the war.<sup>32</sup>

Lieutenant General Heiser believed that authorized stockage lists (ASLs) and prescribed load lists (PLLs) for units contribute to efficiency by reducing the amount of individual items that the supply personnel must procure, track, and store. Push packages should only be done early in an operation to meet urgent needs. If continued, they can overwhelm the units on the ground, often with supplies they do not need.<sup>33</sup>

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<sup>30</sup>Ibid., 119.

<sup>31</sup>Joseph M. Heiser, *A Soldier Supporting Soldiers* (Washington, DC: U.S. Government Printing Office, 1991), 35, 44-45, 177.

<sup>32</sup>Heiser, *A Soldier Supporting Soldiers*, 54.

<sup>33</sup>Ibid., 134, 155.

Logistics practices must be the same in peace as in war. If the military does not “practice like they play” units will not understand proper procedures when they deploy; garrison practices must strive to replicate field practices.<sup>34</sup>

In *Vietnam Studies: Logistic Support*, Lieutenant General Heiser’s second book on logistical lessons he has observed, he finishes his last chapter by stating, “Time and environment change, but basic logistics problems and human nature remain the same. The opposition will be defeated by our learning and implementing lessons from the past.”<sup>35</sup>

Lieutenant General Fuson’s book, *Transportation and Logistics: One Man’s Story*, he states that the most difficult logistical items to handle and control are items such as components and repair parts. They are often small, vehicle or equipment specific, designated to go to specific units, and come in overwhelming amounts into theater.<sup>36</sup>

There is always a shortage of logistical personnel when a theater is first opened. The commanders do not plan for support units in their original requests. They want combat troops. Because of this lack of proper planning, logistical crisis happen in all opening phases of conflicts. Only then are proper numbers of logistical troops sent in. By then, it can take months or even years to correct the situation and cost a great deal more than if the proper actions were taken in the first place. This has definitely happened in every war the U.S has fought since World War II.<sup>37</sup>

A good organization in theater is imperative, not only at the top of the logistical system but for each of the specialized supply and service areas. Without this, these sub-functions will

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<sup>34</sup>Ibid., 228.

<sup>35</sup>Joseph M. Heiser, *Vietnam Studies: Logistic Support* (Washington, DC: U.S. Government Printing Office, 1974), 264.

<sup>36</sup>Jack C. Fuson, *Transportation and Logistics: One Man’s Story* (Washington, DC: U.S. Government Printing Office, 1994), 61.

<sup>37</sup>Ibid., 62.

often flounder. A person with enough rank and authority is needed that can make on the spot corrections and plans to meet the developing situations.<sup>38</sup>

Lieutenant General Fuson believes that often inefficient practices are necessary to support field units more effectively. What makes good fiscal sense in a garrison environment may not be practical in a deployment. Redundancy and stockpiled supplies, things that are avoided in garrison, are necessary to be prepared for unexpected requirements.<sup>39</sup>

Lieutenant General Pagonis writes in his book, *Moving Mountains: Lessons in Leadership and Logistics from the Gulf War*, since the 1970's, the majority of the support units in the Army are in the National Guard and Reserves. In the Gulf War, about 75 percent of the troops, which peaked at 81,000 soldiers of the 560,000 U.S. troops in the theater, under the 22d Support Command were reservists. This can lead to challenges in training and equipment on a deployment; the reservists' abilities can vary widely from unit to unit.<sup>40</sup>

The basic problem early in Desert Shield was that the logisticians were trying to set up a structure for reception and sustainment in the middle of a deployment. According to doctrine and common sense, the structure is set up first and then begins the mass deployment of forces.<sup>41</sup>

The Army had been training and equipping itself for decades to fight in the comparatively small area of Central Europe. In the Gulf, the Army found itself having to move all its personnel, supplies, and vehicles (1,200 of which were tanks) 1,500 miles just to get into position. The need for an expanded transportation capability was even greater than in past wars.<sup>42</sup>

The brevity of the war meant several aspects of the logistical structure were never truly tested, like medical. This means a false understanding of what to expect in a conflict can be fostered--rationing of fuel and subsistence and evacuation of casualties may not be properly

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<sup>38</sup>Ibid., 131.

<sup>39</sup>Ibid., 100.

<sup>40</sup>Pagonis, 11, 100.

<sup>41</sup>Ibid., 82, 87.

<sup>42</sup>Ibid., 122-123.

planned for in the future. Lieutenant General Pagonis sums up his view of the importance of logistics to an army in this statement, “Good Logistics is Combat Power.”<sup>43</sup>

From these lessons learned, several aspects of logistical planning need to be identified and planned for by medical logisticians in the challenging environment of a new theater. Most importantly, medical logisticians must be involved at the highest levels of planning and decisions making. Only by being present to influence and understand decisions can the proper units be deployed, the locations for warehouses established, and a proper supply chain be created.

The preparations for deployment must not begin when the notification of deployment is received. The medical units must be preparing for field operations in their daily routines. This includes the Class VIII ordering process. Having a system in the garrison environment that will not be utilized in the field does not foster relationships and improve capabilities. The garrison and field ordering processes must mirror each other as closely as possible to ensure that once deployed, the medical units are capable of ordering supplies and have realistic expectations of the medical logistical system.

The standardization of supplies is key, especially in the medical field. The variety of materiel and equipment found in the medical field is vast; trying to carry every individual item that a provider could desire in the supply system is unrealistic. A strict standardization program is required, and the leadership must be disciplined enough to stick to those standardized items in garrison and in the field.

With current capabilities, medical units will not have adequate communications during the opening months of a deployment. Medical units utilize large and varied information technology systems that are supported by Medical Command agencies in garrison. Once deployed, the Army’s Signal Corps will be expected to provide support. Since they have no experience with the needs of the medical units and do not have the equipment to support them

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<sup>43</sup>Ibid., 149, 171.

when the needs are understood, medical units must deploy with enough computers and satellite dishes to support themselves. If they do not, their communication capabilities will take months to improve.

Transportation will be an issue. Many medical units are only 10 percent mobile at any time, meaning that they only have enough trucks and trailers to move 10 percent of their equipment at any time. They must rely on other transportation assets or perform multiple turns to move their assets during a campaign. This lack of transportation means that medical logisticians must be intimately engaged with movement control centers to ensure the medical units receive their required share of the limited transportation assets in the theater.

The initial placement of facilities, both treatment and logistical, will have implications for support in the future. Once a site is decided on, resources will be provided to improve the site, often millions of dollars. Because of this investment, moving that site later on will often become impossible, even if it would enhance support. The careful selection of sites must be done with possible future requirements included in the decision criteria.

The use of push packages, boxes or pallets with a pre-designated set of supplies on them is a requirement in a new theater and when an army is maneuvering. Communications will undoubtedly breakdown between line units and the supporting units to the rear. Because of this, supply requests will not be received in the supporting units. The push-packages must be forwarded on a regular basis to ensure supplies are reaching the front lines. This is an inefficient system, but efficiency cannot be the first concern during a campaign, supplies must get to the front.

Logistical, including medical, units will undoubtedly have difficulty getting into the theater. To alleviate this, medical planners and logisticians must ensure their requirements are understood at the highest levels of command and work closely with the army and theater planners to get their troops into the theater as early as possible. Proper medical support requires facilities,

warehouses, and new operating procedures, none of which can be properly constructed if the troops and their equipment are not physically in the theater.

These aspects have historically been issues when logistical units deploy and must successfully be dealt with for proper support to be provided. These aspects of planning and deploying medical forces into a new theater of operations will be the criteria by which the medical logistical support will be evaluated in Chapter Five.

Lieutenant General Fuson provides an excellent quotation about the findings of the 1965 Brown Board that conducted a comprehensive study of Army logistics. He writes:

The Brown Board pointed out that the Army does not learn by reviewing history and the lessons it teaches, but continues to repeat the same mistakes. This is especially true in logistics, where the techniques, technology, and methods constantly change, but the basic missions remain the same.<sup>44</sup>

The Army has repeated the same mistakes over and over--logisticians entering theater too late, poor command structure, lack of transportation, lack of proper facilities, no integration with the operational planners, inability to anticipate possible problems on a battlefield, and stuck in a peacetime support mentality. If these issues can be properly recognized and planned for, the chances of faster and more decisive tactical victory will be greatly enhanced.

To better understand the discussion of medical logistics in the Iraq War, Chapter Three will explore the evolution of Army medicine and the development of the modern medical logistics system. The way the system has developed in the Army Medical Department plays a key role in the way it is utilized.

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<sup>44</sup> Fuson, 138.

## CHAPTER THREE

### ARMY MEDICAL DEPARTMENT LOGISTICS

The corps always had exceptionally able logistics people.

Lieutenant General Joseph M. Heiser describing Medical Service Corps logisticians in Vietnam.<sup>45</sup>

The Army Medical Department (AMEDD) was created in July 1775. Since the medical profession did not have the varied specialties that it has today, it allowed only for physicians (generically called surgeons, but this term in no way applies to their ability to perform surgery) and apothecaries (roughly equivalent to modern day pharmacists though at this time there were usually physicians filling this role).<sup>46</sup> These were the sole medical professions recognized by society at the time and therefore the only ones recognized by the military.

Only a small percentage of these early physicians had medical degrees, most had merely done an apprenticeship or were self-trained, so the quality of their skills was varied and often poor. Treatment continued to consist of bleeding, purging, and blistering and surgery was largely learned through anatomical manuals or possibly during an apprenticeship, if at all.<sup>47</sup> Since the profession was in such an elementary state, the tools used by the physicians--instruments, medicines, bandages and actual hospitals--were simple and few, and therefore easy to construct and obtain.

The level of professional competence began to change in the mid-1800's. In many areas of the country in 1840, only 20 percent of the practicing physicians had graduated from a medical school. Even a graduate of one of the forty medical schools in the country would have only attended a series of anatomy, biology, and chemistry lectures for a school year, and then attended the same ones again the next year. They would also have done some form of apprenticeship

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<sup>45</sup>Heiser, *A Soldier Supporting Soldiers*, 158.

<sup>46</sup>Mary C. Gillett, *The Army Medical Department: 1775-1818* (Washington, DC: U.S. Government Printing Office, 2004), 22-23.

<sup>47</sup>*Ibid*, 1.



under an experienced physician. Few states had any licensing laws, a person who had passed a “majority” of their classes in medical school could be called a doctor, and most did not have even this much training.<sup>48</sup> This was starting to change in America as the Civil War was beginning.

The need to control admission into the profession was becoming necessary not only to improve patient care, but to increase profits. Entry was open to whoever wanted to call themselves a doctor and since even those doctors with professional training had little to offer a sick patient, few people had confidence in the profession. With wide open entry and the lack of confidence by the populace they served, the value of the medical services provided was low, so profits were low. With the growing concentration of populations in cities, the number of hospitals began to grow, creating a place for physicians to practice.

The Civil War increased this trend toward limiting admission into the profession and creating hospitals where only credentialed professionals could practice. The leaders of the Army Medical Department wanted to weed out the incompetent regimental surgeons that entered the Army in the opening year of the war; to do this they initiated examinations on the surgeons and removed from the service those that failed. The massive building projects that constructed hospitals capable of housing tens of thousands of soldiers throughout the north was another factor in changing the nature of American medicine. It led to construction, nutrition, and sanitation standards being adopted throughout the country and increased the number of trained enlisted hospital stewards and civilian male and female nurses. When the war ended, the personnel took this knowledge back to their communities and educational institutions and implemented it there. The impact of examinations, courses for nurses, expanded medical knowledge, improved medical schools, growth of hospitals, and improved knowledge of medicines and drugs coming out of the Civil War were coupled with the advent of antiseptic surgery in the decade after the war and

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<sup>48</sup>Galuszka, “Logistics in Warfare,” 42, 43; and Paul Starr, *Transformation of American Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry* (New York, NY: Basic Books, 1982), 62-64, 114.

created a true medical profession, one where new state medical boards controlled entry to those who had the proper medical credentials and passed examinations.<sup>49</sup>

Once the medical education became formal and the profession became profitable, it began to improve in every aspect. The drug companies improved the quality of their medicines, hospital architecture improved, equipment was developed for specialized use, instruments were improved, and physician specialties developed as well as a diverse group of non-physician medical personnel including psychologists, pharmacists, registered nurses, optometrists, and dentists to fill specialized needs within the medical system. Another specialty group that developed was medical administrators to free clinicians from the non-clinical duties that come from running any institution or organization. In turn, medical administration has many sub-specialties including patient administrators, comptrollers, and logisticians. Today, each of these specialties has strict educational, training, and credentialing requirements for entry just as the clinical professionals do. As the civilian medical system developed these positions, they were slowly added into the Army Medical Department. Army medical logisticians will be discussed in the remainder of this chapter.

Today's medical logisticians are members of the Medical Service Corps (MSC). The Medical Service Corps was created on 4 August 1947, but its functions date back to the founding of the Army in 1775.<sup>50</sup> The apothecary positions created at that time not only were responsible for drugs and medicines, but also beds, linen, and other supplies necessary for the gathering army.<sup>51</sup> The army created the position called a medical purveyors (who were always physicians) before the War of 1812. These men were responsible for the purchasing, storing, and distribution

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<sup>49</sup>Starr, 75, 65-69; Galuszka, "Logistics in Warfare," 43; Frank R. Freeman, *Gangrene and Glory: Medical Care During the American Civil War* (Urbana and Chicago, IL: University of Illinois Press, 2001), 84; and Mary C. Gillett, *The Army Medical Department, 1818-1865* (Washington, DC: U.S. Government Printing Office, 2004), 181-182.

<sup>50</sup>Richard V. N. Ginn, *The History of the U.S. Army Medical Service Corps* (Washington, DC: U.S. Government Printing Office, 1997), 203.

<sup>51</sup>*Ibid.*, 3.

of all medical supplies, to include drugs after 1821 when the apothecary positions were eliminated.<sup>52</sup> The main purveyor depots were in New York and Philadelphia.

During the Civil War, these purveyors were assisted by medical storekeepers (often civilian druggists) and enlisted hospital stewards in their duties. They managed depots throughout the North, always co-located with quartermaster depots for transportation support, as well as in the geographical Military Departments and with the field armies. These depots supplied various items such as stretchers, chloroform, quinine, tourniquets, scissors, and bedding. They constructed field medical chests for medicines and drugs and created special wagons (called Autenrieth wagons) that hauled medicines, drugs, bandages, and instruments in specifically built compartments for easy access during campaigns. The purveyors worked with the Army Surgeon General's office to create standard supply tables for the field medical chests. This standardization stopped the previous practice of filling chests with a wide variety of materiel. By standardizing the supply table across the army, the purveyors were able to manage fewer individual items, and therefore ensure a greater fill rate for requests from the field as well as enforce stricter quality control standards from the producers. Even with the elementary state of medicine in America, the Autenrieth wagons could hold 177 separate line items, 77 of which were different types of medicines and drugs.<sup>53</sup> Enforcing standardization was crucial in the requisitioning process for the purveyors to properly support the armies in the field. This purveyor system stayed in place until World War I.

With the civilian community finding non-physician medical personnel a must in operating their organizations, World War I found the Army Medical Department commissioning not only physicians but also nurses, dentists, and officers to run the medical evacuation system in the new Army Ambulance Service, which was created on 23 June 1917. One week later, the

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<sup>52</sup>Gillett, 1818-1865, 28.

<sup>53</sup> George W. Smith, *Medicines for the Union Army: The United States Army Laboratories During the Civil War* (New York, NY: Pharmaceutical Products Press, 2001), 5-8, 12-14, 139-143.

Sanitary Corps was created. This corps provided preventive medicine, psychology, medical equipment, administrative, and logistical experts to the medical department to free physicians from these duties. This was the first time non-physicians had broad responsibilities for the procurement, storage, transportation, distribution, and maintenance of medical materiel and equipment. This was possible only because of the professionalization of medical administrative functions in the civilian sector. By wars end, 331 Sanitary Corps officers would be involved in medical logistics (MEDLOG) compared only 16 physicians. The Sanitary Corps officers were seen only as assistants to physicians; they always worked for physicians, they never had independent authority.<sup>54</sup>

The old depots were still in place throughout American cities for procurement, but great advances were made in the distribution of supplies on the battlefield. Depots were also set up in France to receive supplies from the U.S. These were still co-located with quartermaster depots to facilitate transportation support. These depots were not run by a physician with a few hospital stewards and civilian laborers, now they were run by units specifically trained and staffed to manage medical materiel. This was also true in the line units. Each division now had a medical battalion with a medical supply company organic to its organization to receive and distribute supplies to clinicians throughout the division.<sup>55</sup> This new concept of support was a giant leap forward compared to the system used since the Civil War.

After World War I, the evacuation function and the non-scientific functions of the Sanitary Corps were joined together under a new corps called the Medical Administrative Corps (MAC). The medical logistics officers had seventy-four drugs and eighteen surgical instruments to manage in the 1918 supply table. The countries medical capabilities and resources expanded so quickly that the supply tables listed 4,300 items in these categories by 1927. The specialized training the MEDLOG officers received normally consisted of on-the-job training done during

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<sup>54</sup>Ginn, 45, 57-59, 61-62, 105, 111.

<sup>55</sup>Ibid., 43.

tours at one of the medical logistical depots. When World War II began in 1941, medical logistics had suffered from neglect and the downsizing of the officer corps, which led to physicians being placed in charge of most medical logistics functions. This was recognized as a problem throughout the Medical Department, and the Medical Administrative Corps was greatly expanded to fill tactical and administrative positions in order to put physicians back into clinical jobs. Over 17,000 officers were commissioned into the MAC during the war to support the 45,000 physicians who treated the 8.3 million soldiers who were in the Army by 1945. Seventy percent of the Army's personnel were in support units, and the Medical Department made up a significant portion of that. It had become a massive industrial organization that required strong leadership and management skills, especially in the field of medical logistics.<sup>56</sup>

The extent of the expansion of medical expertise, and with it the requirements for materiel and equipment, can be seen in the statistics of supplies used for the 23d General Hospital in just 1944--90 miles of gauze, 12,000 pounds of plaster of paris, 3,600 cans of ether, and over 2,000 liters of normal saline solution.<sup>57</sup> The diversity of responsibilities for the medical logisticians is obvious in the following statement made by the Surgeon General of the Army, Major General Norman T. Kirk, to a group of logisticians in 1943 about the early days of the war:

In some areas there had been no suction equipment for surgery and medics would have to hook up a hose to a truck's windshield wiper vacuum line. Scissors would not cut and the fluoroscopic glass in every x-ray machine had broken during shipping. There were no intestinal sutures, no washing machines to do the hospital laundry, sterilizers without gauges, and warehouses full of junk left over from the last war.<sup>58</sup>

MAC officers commanded the medical logistics companies in the division medical battalions as well as the numbered depot units used at the theater and corps levels, for example the 30th Medical Depot. Each hospital, both fixed base hospitals and field hospitals, now had permanently assigned MAC officers to handle medical logistics. The supply chain went from the

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<sup>56</sup>Ibid., 95, 105, 124, 119, 122

<sup>57</sup>Ibid., 143.

<sup>58</sup>Ibid.

manufacturers to the permanent medical supply depots in the U.S. (like those in St Louis or New York), they then shipped supplies to the theater depots (in England for example), who forwarded supplies to the depots following the armies and corps in Europe, who forwarded supplies to the medical logistics companies in the divisions and field hospitals for distribution.<sup>59</sup> MAC logisticians had become so important to the department that Major General Kirk named Edward Reynolds as the Chief of Supply Service for the Medical Department in 1943 with the rank of colonel in the MAC. Colonel Reynolds became the first MAC general officer in 1945 when he was promoted to brigadier general. The head of the supply division reverted back to a physician after the war until 1960 when it was filled with a MSC colonel, the position has stayed that way since.<sup>60</sup>

The Medical Service Corps was created in 1947 when the pharmacy, supply, administration, medical allied sciences, sanitary engineers, and optometry officers were all consolidated into one single corps.<sup>61</sup> The medical maintenance officers would be phased out in the 1950's and the positions converted to warrant officers in 1960. The corps did not have a permanent general officer position. These positions were closely guarded by the Medical Corps until 1966 when the Chief of the Medical Service Corps, William A. Hamrick, was promoted to brigadier general. The corps had limited command opportunities until the reforms of the 1990's.<sup>62</sup>

The Medical Field Service School was moved in 1946 from Carlisle Barracks, Pennsylvania to Fort Sam Houston, Texas; it still resides there as the AMEDD Center and School.<sup>63</sup> Training for medical logisticians became more formal with the creation of the MSC basic course and the medical logistics courses offered at the medical supply depots in St Louis

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<sup>59</sup>Ibid., 143-144.

<sup>60</sup>Ibid., 145-146, 285.

<sup>61</sup>Ibid., 203.

<sup>62</sup>Ibid., 347, 452.

<sup>63</sup>Ibid, 199.

and New York. These courses would develop into a ten-week course that is still taught at Fort Sam Houston for company grade officers.<sup>64</sup>

Medical logistic support found the medical supply depots doubled in size from World War II to 200 soldiers. They consisted of a base platoon and two advance platoons for forward distribution units with the field units.<sup>65</sup> There had been calls for pulling medical logistics out of the Medical Department and putting it under the Quartermaster Corps during World War II. The Hoover Commission's report in 1949 reaffirmed the need for medical control of the medical logistics system. Where ever the medical system lost control of its supply system during the war, the system all but shut down. The intimate relationship between clinical performance and medical materiel and equipment is so important that without a strong understanding by the medical logistician of the clinicians needs, the logistician cannot provide the support required. Being a part of the Medical Department is key to making this relationship work.<sup>66</sup>

The Korean War started on 25 June 1950; by 8 July 1950 the 8065th Army Medical Depot was in country setting up the medical supply system on the peninsula and preparing the AMEDD for successful support during the war. By September 1951, base depots were in place in Pusan and Taegu, and three medical depots were providing support on the Peninsula with advance platoons forward in each of the three U.S. corps. This was also the first war where air medical evacuation helicopters were used. These aircraft would prove vital to medical logistics in the future for emergency re-supply and medical materiel backhaul capabilities after they had dropped off the casualties they were evacuating.<sup>67</sup>

The Vietnam buildup began slowly, but by 1967 the 44th Medical Brigade, commanded by a brigadier general, was in charge of all the non-divisional medical units in country, which included eight evacuation hospitals, four surgical hospitals, three field hospitals, and one

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<sup>64</sup>Ibid., 213, 396.

<sup>65</sup>Ibid., 200.

<sup>66</sup>Ibid., 213.

<sup>67</sup>Ibid., 251.

convalescent center. The amount of supplies used in the theater was growing with the ever-improving medical care provided. The amounts of medical supplies used in the hospitals was enormous, the 71st Evacuation Hospital used forty tons of medical supplies during the three week battle of Dak To in 1967, but even the divisional medical units were using vast amounts of materiel for casualty care. A single medical company in the 25th Infantry Division used four tons of medical supplies in a two-month period starting in December 1967.<sup>68</sup> The situation was made more difficult when the Army set up the Army Pacific Materiel Management Agency in 1965 as the central funnel point for all classes of supply requisitioned in Vietnam, effectively removing medical supply from Medical Department control. With the Medical Department as the only user of medical items, a situation unlike the other categories of supplies which have multiple users, to divorce medical supplies from Medical Department control can only make the system less responsive to the needs of the providers treating patients at the front. A particularly difficult aspect was the inability of the general supply system to deal with non-standard items (ones not yet incorporated into the federal supply catalog due to the rapidity of technological change and slowness of the bureaucracy). The 32d Medical Logistics Depot stocked 1,200 non-standard items but was unable to get the general supply system to provide them on any regular basis, to the detriment of the casualties in Vietnam. The issue was not the tonnage of medical supplies in this case, but the high percentage of critical items required. The system that provided tires and tents to the entire Army could not adapt to the specialized needs of the Medical Department. A higher level of responsiveness and understanding was required. In the Fall of 1965, the percentage of requisitions filled was only 79 percent. By May 1966, it had plummeted to 12 percent while the fill rate for general supply items in stock was 100 percent. General Harold K. Johnson, the Army Chief of Staff, empowered the Surgeon General, Lieutenant General Leonard B. Heaton, to make whatever changes he required to remedy the situation. The 70th Medical Depot in Okinawa,

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<sup>68</sup>Ibid., 308, 311-313.



which already provided medical supplies to other military bases in the western Pacific like Korea and Japan, became the theater supply point for Vietnam. They were instructed to order supplies directly through the U.S. Army Medical Materiel Agency (USAMMA) in Phoenixville, Pennsylvania (later moved to Fort Dietrick, Maryland) and push them to the 32d Medical Depot in Cam Rahn Bay, Vietnam and its advanced depots at Long Binh, Qui Nhon, Chu Lai, and Phu Bai. By September 1966, the fill rate had attained 95 percent, thus reaffirming the need for Medical Department control of its medical supplies.<sup>69</sup>

The issues with medical logistics were a direct result of the dismantling of the Technical Services under Secretary of Defense, Robert McNamara, in 1962. Prior to that date, the chiefs of the different service and support branches, like the Ordnance Corps and the Quartermaster Corps, were the heads of Technical Services that had complete control over the research and development of all commodities under their supervision, as well as responsibility for writing technical manuals, training personnel, and manning units. This was considered to unwieldy by Secretary McNamara, and he had the Technical Service responsibilities taken away from the corps chiefs and put it under the new Defense Logistics Agency, for common use items across the services, and under Army Materiel Command, for Army specific items. Much of the old responsibilities was not taken up by the new organizations and would not be remedied until after Vietnam. Part of these reforms was to be the abolishment of the Medical Service Corps, its' duties would be taken up by other branches, with the exception of the medical sciences. The Surgeon General was able to fight the proposed changes, with the help of the lobbying of civilian healthcare organizations like the American College of Hospital Administrators, and preserve the MSC because without it, "we could not continue in our presently highly effective fashion--it is that simple."<sup>70</sup> Removing the medical supply function from medical control early in the Vietnam War was a result of these changes in the Defense Department. Four separate studies made during

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<sup>69</sup>Ibid., 319-320; and Heiser, *Vietnam Studies: Logistic Support*, 215.

<sup>70</sup>Ibid., 345-347; and Heiser, *A Soldier Supporting Soldiers*, 101-106, 158.

the war on Army logistics concluded that medical logistics must be managed by the Medical Department. These studies led to the establishment of Class VIII supply, a separate category for medical logistics in 1968.<sup>71</sup>

Another attempt to remove medical logistics from medical control happened in 1993. It was found that medical supplies, blood and blood products, medical equipment, medical equipment maintenance, and optical fabrication were unique to the AMEDD and must be answerable to the Surgeon General. Yet again, the technical complexity of medical logistics, its time sensitivity to the user, and its pivotal role in the delivery of healthcare enabled it to stay under the control of the Medical Department. The “stove-pipe” nature of MEDLOG, meaning it is separate from the normal logistics system, is more pronounced during peacetime. While at peace, the ordering, warehousing, and distribution of Class VIII is done completely with medical resources, but in partnership with the Army Materiel Command and the Defense Logistics Agency; during wartime, the ordering still takes place through medical channels, but the warehousing and distribution of materiel is reliant on the normal distribution channels.<sup>72</sup>

While computers had been used in military logistics since before the Korean War, they only became widely used in deployable units during Vietnam. The value of automation comes from the difficulty of maintaining accurate counts of vast quantities of materiel coming and going from warehouses and units, computers assist with this repetitive task. The need for large inventories of supplies is necessitated by the lack of responsiveness to requisitions for supplies, if a unit can maintain a supply of materiel on hand; they do not have to rely on the rest of the supply chain when they have a need. But this mentality leads to having large amounts of money tied up in inventories. The civilian logistic community found in the 1950’s that coupling the new automation with improved communications for ordering and transportation for delivery of

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<sup>71</sup>Ginn, 361.

<sup>72</sup>Ibid., 361, 448; and Jonathan M. Kissane, Colonel, Myth of Separate MEDLOG System Briefing Slide, provided to author 23 January 2006; and Micheal G. Johnson, Colonel, Joint Medical Logistics Briefing to MEDLOG Forum 2005 at the National Defense University, 15 June 2005.

materiel meant large inventories are unnecessary. Tying these concepts with standardized ASLs and PPLs meant that the Army could better manage its logistical needs and keep units supplied in the field. The automatic data processing equipment used by the 32d Medical Logistics Depot in Vietnam enabled them to accurately maintain an estimated forty-five to sixty days of supply on hand.<sup>73</sup> This system relies on constant communication and transportation capabilities, and this must be taken into account during the chaotic opening months of a newly opened theater of operations when communications and dedicated transportation may be difficult to maintain.

The automated system developed for the AMEDD in the 1980's was the Theater Army Medical Management Information System (TAMMIS). TAMMIS has subsystems for patient accounting and reporting, patient regulating, blood management, and medical logistics. It was the AMEDDs first attempt to automate is administrative functions in the field. It was not set up to interface to other Army or sister service systems. The TAMMIS Customer Assistance Module (TCAM) was developed to give customer units the ability to order supplies from a personal computer and send the order to the medical logistics unit on a hand carried disk or electronically.<sup>74</sup>

The Medical Depots were transformed into Medical Supply, Optical, and Maintenance (MEDSOM) units in the 1970's. They could not only do Class VIII support and maintenance on medical materiel, but also do optical fabrication by grinding lenses and making glasses in the field. These are the units that the Army would take into the Gulf War of 1990 to 1991. In the 1990's, these units were renamed again and called Medical Logistics Battalions Forward or Rear,

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<sup>73</sup>Heiser, *A Soldier Supporting Soldiers*, 97-98, 155, 177; and Heiser, *Vietnam Studies: Logistic Support*, 215.

<sup>74</sup>Ginn, 376; and Douglas H. Galuszka, "Defense Medical Logistics Standard Support (DMLSS) System: A Case Study of the Deployment of DMLSS Release 3.0 at Moncrief Army Community Hospital" (Thesis, U.S. Army-Baylor University, Fort San Houston, TX, 2003), 10-11.

meaning forward in corps and division areas or in the rear at the air or sea port receiving supplies into theater.<sup>75</sup>

The Gulf War began on 7 August 1991 when President George Bush ordered U.S. troops to Saudi Arabia in response to Iraq's invasion of neighboring Kuwait. On 8 August, the first medical logistics unit arrived in country, the 32d MEDSOM. In September, the 32d was joined by the 47th MEDSOM. The need for a single center that could have authority over medical logistics in the new burgeoning theater was realized and the 32d and the 47th were joined together to form the U.S. Army Medical Materiel Center, Saudi Arabia under the command of Lieutenant Colonel Richard L. Ursone near the sea and airport city of Ad Damman. These units would be joined by another active duty MEDSOM, the 428th, and two reserve MEDSOMs, the 980th and the 145th. The 980th replaced the 32d, which went to support XVIII Airborne Corps units. The newly formed materiel center processed over 200,000 customer requests and issued over 200 million dollars worth of supplies and equipment while handling an average of 65 air line of communication (ALOC) pallets a day.<sup>76</sup>

The U.S. Army Medical Materiel Center, Europe (USAMMCE) in Pirmasens, Germany provided much of the support to the materiel center in Saudi Arabia. This organization has a mix of military and civilian employees (40 military, 46 Department of the Army Civilians, and 344 local nationals) that manage 7,000 line items in their warehouses (customers can order 40,000 more items through catalogs). They provide medical supply, medical maintenance, and optical fabrication support to all Department of Defense and Department of State activities in Europe, Africa, and the Middle East. Its supplies are flown from Dover AFB, Delaware to Ramstein AFB, Germany and trucked down to the USAMMCE warehouses. During the Gulf War, USAMMCE shipped 5.6 million pounds of medical supplies worth 56 million dollars to the

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<sup>75</sup>Ginn, 396.

<sup>76</sup>Ibid., 432-433; and Pagonis, 116.

theater, provided 17 hospital equipment and supply sets, and filled 71,000 orders for spectacles and protective mask inserts.<sup>77</sup>

The U.S. Army Medical Materiel Agency (USAMMA) in Fort Detrick, Maryland was the other supplier of materiel to the medical forces in Saudi Arabia. This organization of 320 people is also a mix of military and civilian employees. It works closely with the Defense Logistics Agency and the Army Materiel Command to provide medical support to the Army in both fixed facility and field units. USAMMA does not maintain large warehouses of medical supplies at Fort Detrick; there they have the headquarters and administrative divisions that organize the support that they provide around the world, such as managing obtaining new equipment and writing contracts and policy for Army medical logistic support. The stocks that they do maintain are in places such as the Sierra Army Depot, California. USAMMA also maintains the equipment and medical supplies for the Army's Pre-Positioned Stocks (APS) that can be issued to units once they have deployed to a given region in lieu of those units bringing equipment from their home station. This speeds up their readiness for combat. These stocks are maintained in the U.S., Europe, the Pacific, Southwest Asia, and aboard ships. This materiel consists of brigade and hospital sets (a set is a pre-designated and standardized amount of equipment and materiel), sustainment stocks, and unit deployment packages. APS containers are all opened and inspected with outdated supplies being replaced and equipment recalibrated every 30 months. These stocks, and materiel flown in from the States, augmented the support provided from USAMMCE to troops in the Gulf.<sup>78</sup>

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<sup>77</sup>Ginn, 433; and Irene Weber, "Medical Materials: The Army's Best Kept Secret," *MEDCOM Examiner Magazine* (March 1988); and Cynthia Vaughn, "Medical Materiel Center Supplies Military Hospitals Throughout Europe," *European Regional Medical Command News Release* (14 May 2003); and Ronald S Lain, Major, E-mail from U.S. Army Medical Materiel Agency- Europe Support Operations Office, Pirasens, Germany, 13 February 2006.

<sup>78</sup>U.S. Army Medical Materiel Agency, *Centrally Managed Materiel Programs*, (Fort Detrick, MD: Government Printing Office, 2006); U.S. Army Medical Materiel Agency, *Medical Equipment Life Cycle and Logistics Support for Deployable Medical Treatment Facilities*, (Fort Detrick, MD: Government Printing Office, 2006); and U.S. Army Medical Materiel Agency, Available from <http://www.usamma.army.mil>, Internet, Accessed on 1 February 2006.

The Army would eventually deploy eight medical groups commanded by two medical brigades, all organized under the 3d Medical Command, to the Persian Gulf. A total of 198 medical units provided medical support from the medical platoon to the field hospital. While General Norman Schwarzkopf is quoted as saying the Medical Departments support was “nothing short of spectacular,” there were serious doubts brought up by others.<sup>79</sup> Lieutenant General Gus Pagonis, the Commander of the 22d Support Command and the senior logistician in the Gulf during the war, felt that due to the short duration of the ground war and the small number of casualties suffered by coalition forces (of the 541,000 U.S. personnel deployed, only 145 were killed and 357 were wounded), the medical system was never sufficiently “tested” to see if it was really capable of performing as it was supposed to.<sup>80</sup> Some of the issues the medical units found were lack of Sealand shipping containers for the vast amounts of equipment they required, lack of refrigerators for temperature sensitive pharmaceuticals, lack of materiel handling equipment (forklifts) for unloading equipment in Saudi Arabia, medical personnel, equipment and supplies being denied transportation due to priority for combat units and Class I and Class V supplies, inadequate transportation assets limiting amount of Class VIII that units could carry, lack of fuel and water storage assets for hospitals, poor communications in medical units, and a great need for sick call supplies.<sup>81</sup> The General Accounting Office report of the AMEDD in the Gulf War said that medical units failed to deploy with fully stocked medical sets requiring initial supply in Saudi Arabia which overwhelmed the MEDLOG system, many medical personnel were poorly trained to perform their duties in a field environment, and that the lack of transportation assets for medical units rendered most units at least partially immobile and greatly hindered the distribution of medical supplies. The report summarized that, “By most accounts, the Army was able to

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<sup>79</sup>Ginn, 428.

<sup>80</sup>Pagonis, 149.

<sup>81</sup>3d Armored Cavalry Regiment, Gulf War After Action Report, Available from <http://call.army.mil/>, Internet, Accessed on 12 August 2005; and 44th Medical Brigade, Gulf War After Action Review, C+90 (December 1990), Available from <http://lessonslearned.amedd.army.mil/>, Internet, Accessed on 13 October 2005.

provide adequate care for those soldiers in need. However, had the predicted number of casualties occurred, had the ground war started earlier, or lasted longer, the Army would not have been able to provide adequate support.”<sup>82</sup> The success of the war could give a false sense of security.

In the 1990’s, significant changes were made in Army medical logistics. The maintenance of large inventories in warehouses was found to be prohibitively expensive and unnecessary. Coming into line with the civilian practice of “just in time” logistics where modern communications, transportation, and automation enables suppliers to quickly fill orders thereby making large warehouses full of supplies unnecessary, the Department of Defense (DoD) went to a Prime Vendor system for its medical supply needs. The country was divided into regions. Each region had a single civilian medical supply company that had a contract to provide the medical facilities (and in turn the medical field units who draw their supplies from the local Installation Medical Supply Activities located in the base hospitals) in the region with supplies. This new program was successful and saved the Medical Department hundreds of millions of dollars from inventory reductions, lower supply costs, and personnel reductions. The DoD also initiated the Defense Medical Logistics Standard Support (DMLSS) computer system as the DoD wide medical logistics system. The need for this system was illustrated in the Gulf War when the systems used by the Army, Navy, and Air Force could interface with each other and lead to the inability to combine efforts and share supplies in the field; DMLSS would make this communication possible. DMLSS was meant to be used in fixed facilities and in the field and had modules for property, medical materiel, facility, and medical maintenance management. The initial modules were released to treatment facilities in 1996, and in 2001 the hospital at Fort Jackson, South Carolina became the first activity to convert to solely utilizing DMLSS for medical logistics. The intent was to install DMLSS in all the fixed facilities first and then

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<sup>82</sup>Government Accounting Office, *Operation Desert Storm--Full Army Medical Capability Not Achieved* (Washington, DC: Government Printing Office, February 1992).

distribute it to the field units throughout the services. This was to take place over the next several years.<sup>83</sup>

Additional innovations were the 6th Medical Logistics Management Center (MLMC) and the Medical Logistics Support Team (MLST) developed by USAMMA. The 6th MLMC replaced an older unit called the 6th Theater Medical Materiel Management Center. The 6th MLMC is a mix of active and reserve soldiers that can provide centralized information management of medical materiel, medical equipment maintenance, and blood to deployed forces. It will often work in split operations with the base unit staying at Fort Detrick and the two forward teams providing distribution management for Class VIII in a theater of operations. This unit, commanded by a colonel, is subordinate to the theater medical commander and is intended to be the senior medical logistics organization in a theater and act similarly as the ad hoc U.S. Army Medical Materiel Center, Saudi Arabia created in the Gulf War. The MLST is an organization of military, civilian employees, and civilian contractors experts that, while part of USAMMA, answer to the Army Materiel Command Logistics Support Team that issues equipment and materiel from the Army Pre-Positioned Stocks (APS) during deployments. This unit goes into a theater at the earliest time possible in order to prepare the way for the incoming field medical units to be issued the medical sets from APS. Once the equipment is issued, inspected and repaired, the MLST redeploys to Fort Detrick. At the end of the conflict, the MLST will return to the theater to support the turning in of equipment to APS control.<sup>84</sup>

Medical logistics in a theater of operations now consists of layers of headquarters staffs and units. The Regional Combatant Commander has a Surgeon's cell with medical logistics planners in it as do the numbered Army command that supplies troops to the theater. The active or reserve medical command that deploys in support of the Army has medical logistics planners, as do the medical brigades serving under the medical command and the corps, division, and

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<sup>83</sup>Galuszka, DMLSS, 12-15.

<sup>84</sup>Field Manual 4-0, 9-6 to 9-8; and Kissane, Briefing Slides.



brigade surgeon staffs. The main work of medical logistics is done by the following units: at the top is the MLMC which acts as the theater medical logistics headquarters answering to the medical command commander; then comes the medical logistics battalions (three on active duty, five in the reserves) that have a logistics company, a medical logistics company, and a blood support detachment that can provide Class VIII storage and distribution, medical equipment maintenance, optical fabrication and blood storage and distribution. There are also three active duty independent medical logistics companies that are miniature MEDLOG battalions; they contain Class VIII supply distribution, medical equipment maintenance and optical fabrication teams and platoons (these companies will eventually be absorbed into the developing multi-functional medical battalions). When the theater is first opening and APS equipment is being utilized, the MLST will deploy to assist in the issuing and repair of this equipment coming off of ships and from warehouses. Normally, a medical logistics battalion supports one Army corps, with distribution platoons forward with the division or brigade medical supply offices.<sup>85</sup>

The reforms and innovations of the 1990's corrected many old problems and ensured that the Medical Department was capable of deploying anywhere in the world and supporting an army on to victory. The events of 11 September 2001 were the start of a new set of challenges for Army medical logisticians. These challenges, and what medical logisticians did to overcome them, will be explored in the next chapter.

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<sup>85</sup>Ibid.

## CHAPTER FOUR

### MEDICAL LOGISTICS IN OPERATION IRAQI FREEDOM

The desert- a tactician's paradise, a quartermaster's nightmare.

Attributed to a German General Officer in WWII<sup>86</sup>

Following the attacks on American soil on 11 September 2001, the decision was made to attack Afghanistan and destroy the Al Qaeda terrorist organization and the Taliban Regime that harbored them. By October, American forces were poised in Uzbekistan and northern Afghanistan ready to support the Northern Alliance forces in attacking the Taliban and Al Qaeda. A logistical forward support base was originally set up at an airbase in Kharsi-Khanabad (K2), Uzbekistan. This included slices of a combat support hospital, an area support battalion, and preventive medicine, dental, veterinary, and combat stress control detachments, as well as medical logistics elements. Since the logisticians were supporting a small number of soldiers, mostly Special Forces, in the opening months of the war, the logistical support troops on the ground were few. The initial campaign lasted from 7 October to 7 December 2001 when Kandahar, Afghanistan fell to the Northern Alliance. The Al Qaeda forces fled into the mountains along the eastern border with Pakistan, so additional U.S. troops were needed to drive them out of their strongholds. New logistical bases were set up at Bagram Air Base and Kandahar Air Base in Afghanistan to support the influx of brigades from the 101st Airborne and 10th Mountain Divisions.<sup>87</sup>

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<sup>86</sup>Julian, Thompson, *Lifblood of War: Logistics in Armed Conflict* (London: Brassey's, 1991), 220.

<sup>87</sup>Micheal DeLong, *Inside CENTCOM: The Unvarnished Truth about the Wars in Afghanistan and Iraq* (Washington, DC, Regnery Publishing, 2004), 39, 40, 55; and Sean Naylor, *Not a Good Day to Die: The Untold Story of Operation Anaconda* (New York, NY: Berkley Books, 2005), xx; and Task Force 261 MED-North, After Action Report, 30 April 2002, Available from <http://call.army.mil/>, Internet, Accessed on 12 August 2005; and Jerry D. VanVactor, "The Changing Face of Medical Logistics in Afghanistan," *Army Logistician* (September-October 2004), 14.

With the expansion of the forces in Afghanistan, the air bridge that supported them needed to be altered. The supplies had been going from Ramstein Air Base, Germany to K2 for distribution to the ground forces. With the opening of the new air bases in Afghanistan, supplies could be pushed there directly. The issue was that the large C-17 airplanes that were normally used for strategic airlift into a theater had difficulty landing at the bases in Uzbekistan or Afghanistan. Central Command (CENTCOM), the U.S. geographic command responsible for the Middle East, had its forward headquarters in the country of Qatar on the Persian Gulf. CENTCOM had also set up the Air Force command and control center for all bombing, air transportation, air base establishment, and air traffic control for the region in Qatar. Since Qatar had an airport that could accommodate the C-17s and warehouses to store supplies, the new regional air logistics hub was also established there. Supplies would come from the U.S. or European bases, offloaded in Qatar and either stored there or loaded onto the smaller C-130 airplanes for shipment into Afghanistan or any other country in the region that U.S. troops were operating in.<sup>88</sup>

As the regional air logistics base was being developed, the medical logisticians that were responsible for supplying units in CENTCOM met at Fort Detrick, Maryland in May 2002. This conference included representatives from the Army, Navy, and Air Force and the CENTCOM Surgeon's MEDLOG Planner and the G-4 (Supply) officer for 3d Medical Command (this unit is commanded by a brigadier general and was the senior medical unit for the ground forces in Iraq.) This was the initial coordination meeting for all the elements that were operating in CENTCOM. CENTCOM then named the Army as the Single Integrated Medical Logistics Manager (SIMLM) for CENTCOM's area of responsibility (AOR). This means that the Army was responsible for providing medical supplies to all the sister services in the region, a normal practice since the Army has the most robust medical logistics structure in the Department of Defense. The Army in

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<sup>88</sup>DeLong, 21, 34; and Jonathan M. Kissane, Colonel, Retired, Interview by author, 23 January 2006, Fort Detrick, MD.

turn tasked the United States Army Medical Materiel Agency (USAMMA) with the responsibility for the SIMLM mission and USAMMA assigned the 6th Medical Logistics Management Center (MLMC) to execute it. In August 2002, the commander of the 6th MLMC and the Assistant Chief of Staff for Logistics for the Army Medical Command conducted a site visit to the Persian Gulf to find the best place to create a Class VIII region distribution center. They inspected sites in Kuwait and Qatar. They decided against Kuwait because of its lack of available warehousing (Camp Arifjan was not yet built) and instead choose Qatar because a warehouse was immediately available and, more importantly, the rest of the CSS for CENTCOM was being conducted from there. Being collocated with the other logistical elements greatly facilitated obtaining money for infrastructure improvements and coordinating for transportation for Class VIII throughout the AOR.<sup>89</sup>

It must be understood that at this time Afghanistan was the main focus for CENTCOM. Kuwait had had U.S. troops in it since the Gulf War but those were normally just a single battalion conducting training in the desert and providing a presence to intimidate Saddam Hussein into staying on his side of the Kuwait and Iraq border. CENTCOM also had troops in the Horn of Africa doing training missions. Iraq was not yet the main effort of CENTCOM that it became in the Fall of 2002, so placing the CSS base in Qatar was viewed as putting the resources in a central location in the region that enabled the logisticians to support troops in the far-flung reaches of the AOR. With this said, 500 million dollars was spent by the U.S. in improving the infrastructure of Kuwait--seaports, airports, headquarters, housing--since the Gulf War in preparations for a possible future deployment to the Gulf to counter Saddam Hussein's regime. Yet the infrastructure was not in place in Kuwait for the region logistics base to be put there, it had to go to Qatar. This was in spite of the assumption by 3rd Army/Combined Forces Land Component Commands (or CFLCC, the designated command for all ground forces in an Iraq campaign) that

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<sup>89</sup>Kissane, Interview; and William Fry, Colonel, interview by author, 23 January 2006, Fort Detrick, MD.

war with Iraq was inevitable from 11 September on. The decision to put the CENTCOM CSS support base in Qatar, and not in Kuwait where it could support the region as well as the predicted massive buildup for a campaign in Iraq, had consequences for medical readiness in the Iraq War.<sup>90</sup>

After the August site visit to Qatar, the CFLCC Deputy Commander for Support released 1 million dollars for the improvement of the newly designated Class VIII warehouse in Camp Snoopy, Qatar. USAMMA provided another 1 million dollars to improve the interior of the building, such as installing shelving. The 6th MLMC operated out of the warehouse and oversaw its improvements.<sup>91</sup>

By September 2002, Saddam Hussein's regime was coming under increased pressure over the suspected weapons of mass destruction it possessed, especially the chemical and biological weapons it had used in the past against Iranians and Kurds. The possibility for an invasion became increasingly probable. The medical operations and medical planners for 3rd Army/CFLCC met with the medical planners and logisticians from 3d Medical Command and USAMMA to begin planning for possible Iraq War support at their headquarters at Fort McPherson, Georgia. On 7 October, the Chief of Staff of the Army, General Eric Shinseki, stated, "From today forward the main effort of the U.S. Army must be to prepare for war with Iraq."<sup>92</sup> That statement drove the medical planners for CENTCOM to have a meeting with medical planners and logisticians from all the services and USAMMA at CENTCOM Headquarters at MacDill Air Force Base, Florida in October. An additional planning meeting was done at Forces Command Headquarters (this unit commands all Army units in the continental U.S.) at Fort McPherson, Georgia. This meeting brought together medical planners from all the units that would potentially deploy to the Gulf to include the 3d Infantry Division, 101st Airborne

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<sup>90</sup>Gregory Fontenot, E.J. Degen and David Tohn, *On Point: The United States Army in Operation Iraqi Freedom* (Fort Leavenworth, KS: Combat Studies Institute Press, 2004), xxiv, 31.

<sup>91</sup>Fry.

<sup>92</sup>Fontenot et al., 29.

Division, 62d Medical Brigade, 30th Medical Brigade and 1st Medical Brigade. It was from these meetings that the CFLCC medical support plan for the Iraq War was decided on. It was written by the 3d Army's Surgeon's office and the 3d Medical Command.<sup>93</sup>

From this plan the Time-Phased Force and Deployment List (TPFDL) was built for the medical units utilizing the Joint Operations Planning and Execution System (JOPES). The TPFDL shows what units will deploy into theater and when. It is very structured in order to provide a proper mix of unit into the theater during the deployment; for example ensuring logistical and support units are available as combat units arrive in theater. However, due to the complexity of the plan and finite amount of sea and airlift assets, this system can be very difficult to modify in response to changing situations. Because of this lack of flexibility, the Department of Defense and CENTCOM decided to scrap the TPFDL and have planners group forces into "force packages" that would deploy in the order required as the campaign unfolded. This approach led to some units being forgotten in the deployment order process and many units, especially logistical, being moved from the beginning of the deployment process to the very end of the process, in some cases moving their deployment date four to five months later than the TPFDL had listed.<sup>94</sup>

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<sup>93</sup>Fry.

<sup>94</sup>Fontenot et al., 73-74.



Figure 1. MEDLOG Units Deployed in Support of the Iraq War

The medical logistical support plan called for the headquarters of the 6th MLMC to deploy to Qatar to provide Class VIII support to Kuwait from its new warehouse. They were augmented by a part of the 388th Medical Logistics Battalion (Rear), a Reserve unit from Kansas. It was decided to create a new organization combining these units called the United States Army Medical Materiel Center--Southwest Asia (USAMMC-SWA), a unit like the permanent United States Medical Materiel Center-Europe and the temporary United States Medical Materiel Center-Saudi Arabia that was created during the Gulf War. USAMMC-SWA was operational in February 2003. Since USAMMC-SWA was located in Qatar, a non-adjointing country to Kuwait, land transportation was not possible and so sea or air transportation was needed to connect the warehouse in Kuwait with the medical units deploying to Kuwait. The 424th Medical Logistics Battalion (Rear), a Reserve unit from Pennsylvania, was to receive the Class VIII coming into Kuwait for distribution. Going into Iraq with the Army ground forces would be the 172d Medical Logistics Battalion (Forward), a Reserve unit from Utah, along with the 591st Medical Logistics Company, an active duty unit from Fort Sam Houston, Texas. The Marines had two medical

logistic companies in the 1st Marines Expeditionary Forces, 1st Force Service Support Group that would draw supplies from the 424th and then issue to their medical units. Three additional medical logistic companies, the 484th, 482d and 551st were scheduled to deploy, but they would not arrive until after major ground operations were declared over on 1 May. The TPFDL called for the 591st to deploy in December 2002 and the MEDLOG battalions to deploy in January and February 2003. This front-end deployment was to put approximately 800 medical logisticians into the theater to support the almost 250,000 soldiers, marines, sailors and airmen that would be on land in Kuwait and eventually in Iraq.<sup>95</sup>

Since the main warehouse for Class VIII was in Qatar, the plan was for the medical logistical resources in Kuwait to remain minimal. The assumption was that as airfields were captured near cities in Iraq, these airfields could quickly become forward logistical bases that could stock all classes of supply that were being flown in, including Class VIII. This would reduce the amount of materiel that would have to be carried overland by truck companies from Kuwait up the ever-lengthening supply routes into Iraq. As the deployment began, the only medical logistical structure in Kuwait was the small Class VIII warehouse on Camp Doha, west of Kuwait City, that supported the health clinic and the battalions that had rotated through Kuwait since the Gulf War. It was not capable of providing Class VIII support for 250,000 troops. The 424th was to arrive early in 2003 and find warehouse space, which was not then provided, on the newly constructed logistical base, Camp Arifjan, located south of Kuwait City. From here the 424th was to provide only enough Class VIII required to complete the medical sets that the units brought with them from home station, in theory a minimal amount would be required to accomplish this. Once the arriving units completed the Reception, Staging, Onward Movement and Integration (RSO&I) phase of deployment, the 424th could then concentrate on only supplying Class VIII to Level I and Level II medical units (battalion aid stations and medical

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<sup>95</sup>Fontenot et al., 39, 73, 483-484; and Kissane, Interview; and Fry.



companies, respectively) through the ground log convoys from Kuwait into Iraq. All Level III (deployable hospitals) Class VIII support in Iraq was to come from Qatar utilizing air assets. This required the 172d to have detachments stationed at the airbases in Iraq to receive the supplies to issue to the hospitals, which would probably be set up near the airbases.<sup>96</sup>

Another key element to the medical logistics support plan was the utilization of the Army Pre-Positioned Stocks (APS) that were ashore and afloat in the Gulf region. The Medical Logistics Support Team (MLST), an Army Materiel Command unit that is manned by thirty-one USAMMA personnel, was to deploy to issue sets to some of the arriving hospitals, Forward Surgical Teams, Veterinary and Dental Detachments, and two maneuver brigades (medical platoons and company) to speed up deployment by reducing the amount of equipment and supplies that had to be shipped from home stations. In November 2002, all the hospitals that were to receive APS equipment, except for the 28th Combat Support Hospital (CSH), came to Fort Detrick for a coordination meeting with the MLST commander where specifics on the process were explained. The MLST would issue the APS CSH that was maintained on the ground in Kuwait to the 86th CSH, the 115th Field Hospital (FH) received the set maintained in Bahrain, the 47th and 28th CSH's received sets that were afloat, and the 21st CSH and the 212th Mobile Army Surgical Hospital (MASH) were only issued modernization augmentation items. Since each of the hospitals sets had approximately 100 MILVAN containers full of equipment in them, the APS program saved an enormous amount of space on the ships coming from the U.S. and Europe.<sup>97</sup>

The initial amount of materiel required for any campaign is always difficult to determine. The environment, type of operation, maturing of the theater, type of units and equipment, the terrain, and the enemy all must be factored into a requirements determination. It is an inaccurate

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<sup>96</sup>Kissane, Interview; and Fry; and Mark J. Dole, USAMMC-SWA- Issues, Updates, and Lessons Learned Briefing for the Association of the United States Army Symposium, June 2005.

<sup>97</sup>John Rogers, Lieutenant Colonel, Interview by author, 23 January 2006, Fort Detrick, MD.

art that tries to be scientific. Once the mission and plan were determined by CENTCOM and CFLCC, USAMMA took that information and utilized the War Reserve Automated Process (WRAP) to find the requirements for what would be needed to replenish the sets being deployed into theater. They then subtracted out the APS materiel that is in the theater and what remained was what they needed to purchase for USAMMC-SWA to stock its shelves. It was very inaccurate, did not take into account items with short shelf lives that are not packed into the APS or the use of sick call supplies in the assembly areas. While it was an imperfect system, it was still able to give a start point for the requirements. The WRAP led to USAMMA purchasing 14 million dollars worth of Class VIII and shipping it to Qatar. The 300 tri-wall cardboard boxes that arrived in Qatar certainly helped with the support to the Iraq War, but since USAMMA had ordered the supplies through a vendor, USAMMC-SWA had difficulty tracking what was due in and what they had received.<sup>98</sup>

Another issue that had to be planned for was electronic connectivity of the medical units to the medical logistics units for placing orders and checking status. The large warehouses in the military all manage and ordered their stock through automated systems which added greatly to their efficiency in the garrison environment and enabled their inventories to be kept to a minimum. Great strides have been taken in the 1990's in automating medical logistics in the fixed facility and garrison environments. This was not the case for medical logistics in the field environment. The new Defense Medical Logistics Standard Support system was to be fielded at all garrison and field medical units, but the War on Terrorism began before it could be provided to the field units. In most divisions, medical supplies were ordered by medical platoons and companies by filling out a form previously prepared by the Division Medical Supplies Office (DMSO) or the Installation Medical Support Activity (IMSA). This form is then taken to the DMSO or IMSA to be inputted into DMLSS at the IMSA or the Combat Automated System

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<sup>98</sup>Kissane, Interview.

Support- Medical computer that runs the Theater Army Medical Materiel Information System (TAMMIS) software at a DMSO. This was how it was done in garrison and practiced in the field exercises. This manual system was difficult for the DMSOs once the entire division was deployed and large orders were coming in each day. With USAMMC-SWA in Qatar, the only way for the DMSO to get re-supplied was to input the orders into TAMMIS and send it electronically to USAMMC-SWA in Qatar. The DMSO needed to have the units input their own orders into TAMMIS. Since the divisional medical units often had no computers when they deployed, let alone the proper software (a program called TAMMIS Customer Assistance Module, or TCAM, that could run on a personal computer), this was all but impossible to achieve. To counter this problem, units were issued TCAM once they arrived in Iraq and given a couple hours of instruction. While in the forward operating bases in Kuwait, units could either send their orders electronically, when possible, or save the order to a disk and hand carry it to the medical logistics supply point. This was difficult to do in Kuwait with its dispersed operating bases. Once the units crossed into Iraq, this was impossible; units were spread out over hundreds of miles and had no way to send orders electronically.

Some units were issued iridium phones that could link their computers with satellites that enabled them to send orders to Qatar, but these phones were erratic and inconsistent. The Very Small Aperture Terminal (VSAT) ground-to-satellite systems were requested by USAMMA starting in July 2002 for units to take into the Middle East. This equipment didn't arrive until May 2003 and wasn't installed until June. The 591st Medical Logistics Company was issued a commercial satellite dish by the 30th Medical Brigade two days before they crossed into Iraq. With this dish they, and later the 172d Medical Logistics Battalion, could send orders to Qatar. It was the only way orders were consistently sent to Qatar for the first month of the war. This problem was not solved until the units stabilized in specific sites in Iraq and regular connectivity

capabilities could be built through the Signal community. Peacetime practices did not match up with the requirements needed in a wartime environment to the detriment of medical readiness.<sup>99</sup>

The plan called for early entry of MEDLOG units and an orderly build up of medical capability, but this is not what was executed. When the TPFDL was scrapped and the Force Package concept replaced it, each Force Package had to be approved at the CENTCOM level. Since CENTCOM was being pushed by DoD to reduce the “footprint” of forces on the ground and speed along the prosecution of the campaign, combat units moved up to the front of the deployment timetable and the logistics units that were needed to support them were pushed later and later. The shortsightedness of the senior people in CENTCOM and DoD had many unintended consequences, like the lack of long haul ground transportation units as an example. The Force Package concept caused enormous challenges for the medical forces during the RSO&I phase of the deployment.<sup>100</sup>

The original TPFDL called for a MEDLOG company to deploy to Kuwait in December 2002 followed by the MEDLOG Battalions arriving in Kuwait and Qatar in January and February 2003. This did not happen. Medical units were being pushed later in the deployment timetable and instead of deploying in December 2002, the first medical logistics company, the 591st, did not land in Kuwait until 7 February 2003. They arrived in country with sixty-seven soldiers, twenty-one of whom were medical supply specialists and nineteen were medical maintenance soldiers, the rest were support personnel like cooks and mechanics.<sup>101</sup> The thirty-one member Medical Logistics Support Team (MLST) had also been scheduled to begin deploying into Kuwait in December to prepare for the issuing of the APS hospitals to the incoming units. With

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<sup>99</sup>Kissane, Interview; and Fry; and Jonathan Goode, Major, Interview by author, 23 January 2006, Fort Detrick, MD.

<sup>100</sup>Fontenot et al., 74; and General Accounting Office, *Defense Logistics: Preliminary Observations on the Effectiveness of Logistics Activities during Operation Iraqi Freedom*, Washington, DC: Government Printing Office, 18 December 2003, 2-4.

<sup>101</sup>Goode, Interview; and Jonathan Goode, Major, After Action Report--591st Medical Logistics Company, 29 October 2004, Available from <http://lessonslearned.amedd.army.mil/>, Internet, Accessed on 7 September 2005.

the switch to Force Packages, this unit was completely forgotten and not placed in any Force Package. Since they obviously had to be in Kuwait before the hospital personnel began arriving, the commander of the MLST arranged for his soldiers, Department of the Army civilians and contractors to fly commercial air to Kuwait on temporary duty orders in January 2003.<sup>102</sup> The MLST and the 591st were the sole medical logistics units in Kuwait until the second week of March when the 424th Medical Logistics Battalion began arriving. The RSO&I medical logistics support for 250,000 U.S. service men and women in Kuwait that was planned to be done by two battalions, a company and the MLST, approximately 500 soldiers in total, was actually done by less than 100. It was from this situation that most of the Class VIII issues in the Iraq War stemmed from.

The MLST began its work in January and would not complete the work of issuing the APS equipment until April, several weeks after the ground fighting had begun. Because of the lack of MEDLOG personnel on the ground, the 3d Medical Command had difficulty answering MEDLOG questions for incoming medical units. Because of this, the MLST found itself assisting the 591st in performing basic support, something well outside its normal responsibilities. The MLST received a great deal of the Class VIII that was be pushed into Kuwait for arriving units. This large push of Class VIII was necessary because so many of the units arrived in Kuwait with depleted or even empty medical chests. This was especially true in the Reserve units. The chests were not kept stocked at home station, and the units tried to order the materiel they required at their home or mobilization station. Since so many units were deploying at once and the Army no longer maintained vast warehouses of supplies, the Prime Vendors and the Defense Supply Agency had to gather the required supplies from across the country. Much of the materiel ordered by the units arrived after the unit had shipped its equipment to Kuwait and could not be put into the sets. This shortfall had to be made up in

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<sup>102</sup>Rogers.

Kuwait. The small health clinic Class VIII warehouse at Camp Doha did as much individual line item ordering as possible to assist units, and USAMMA built sets of Authorized Stockage List items for the DMSOs, FSTs, and others that were shipped into Kuwait for the 591st to issue. The 591st did not require the units to use TCAM for ordering while they were in Kuwait. The units would sign a signature card and be issued their sets.<sup>103</sup>

The MLST worked with the units in two phases. First, the unit signs for the APS set. Second, the MLST helps them pull all of the equipment out of the containers and does technical inspections on all the equipment and conducts repairs as needed. Since the medical logistics battalions, that would normally provide additional medical maintenance technicians to augment the MLST, were not in country, the 591st had to send all of its technicians to assist the MLST. The MLST had difficulties filling the potency and dated items that cannot be packed into the APS containers due to spoilage (laboratory reagents for example) as well as controlled substances like morphine. These items were being shipped into Kuwait due to transportation issues. In March, a civilian 747 jet was chartered to fly from the Sierra Army Depot to Kuwait to bring in the potency and dated and controlled items before the ground war began. Additionally, the MLST (and the medical maintenance community later on) had issues with fielding new items to the units once they arrived in Kuwait. The Tables of Organization and Equipment (TOE) for the units and the ASL for the medical sets had been standardized across the Army to facilitate re-supply and maintenance when the units deploy; when the equipment is standardized the maintenance techs can better service it and the supplies can be already in the supply system which speeds up filling supply requests. It was decided in the Fall of 2002 by the Office of the Surgeon General that the MTOEs and the ASLs needed to be changed and new equipment and materiel needed to be added. This equipment was purchased and sent to Kuwait for the MLST to issue to the units. The problem was the medical maintenance techs did not know how to maintain some of the

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<sup>103</sup>Rogers; and Goode, Interview; and Kissane, Interview; and Richard W. Pope, Lieutenant Colonel, After Action Report, 274th Forward Surgical Team, 19 June 2003.

equipment (the new oxygen generation system for example) and a representative from the manufacturer had to be flown in to instruct the techs and the operators of the new equipment. This meant much of the new equipment was underutilized in the opening stages of the ground war since the inexperienced operators were improperly using the equipment in the harsh desert environment and maintenance techs could not obtain parts to repair the equipment since the repair parts were new to the supply system.<sup>104</sup>

USAMMC-SWA operated out of a 69,000 square foot warehouse that had air-conditioning, a vault, and a walk-in refrigerator to make adequate for storing medical supplies. The 6th MLMC only had 14 of its people and 25 members of the 388th Medical Logistics Battalion in Qatar in February. This was inadequate to sort, document, store and stage the materiel from the pre-positioned stocks and the 1,200 pallets and tri-walls boxes of materiel shipped in from the USAMMA order. The 591st detailed ten of its medical supply specialists for two weeks in February to assist in Qatar. Once the initial stocks were on the shelves, the 591st pulled 4 million dollars worth of Class VIII to fill an order requested by the 591st commander. The request was built to provide re-supply for FST, trauma and sick call sets that were located in the Level I and II medical units. They packed this materiel onto fifty wooden pallets, and it was shipped to Kuwait. This re-supply of the 591st ASL was the only Class VIII re-supply available for shipment into Iraq by ground transportation for the first two weeks of the war. The pallets were left in Camp Arifjan to be carried into Iraq initially by ground transportation units in a Corps Support Battalion and later by CH-47 Chinook cargo helicopters. A portion of the fifty pallets would be pushed forward to the 591st every three days once the ground war began. The transportation of this vital materiel was arranged by the 3d MEDCOM S-4 (Supply) officer

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<sup>104</sup>Rogers.

through 377th Theater Support Command (TSC) representative on the CFLCC Distribution Management Board.<sup>105</sup>

In Kuwait, the 591st did not have a warehouse to store any Class VIII pallets and boxes were gathered between warehouses 8 and 9. (Just prior to the ground war that began on 20 March, part of warehouse 3 was made available for Class VIII storage.) The Class VIII was flown into Camp Doha and the 591st drove its trucks there and brought the materiel back south to Camp Arifjan. The CFLCC Joint Movement Center coordinated all flights from Qatar to Kuwait. USAMMC-SWA was able to arrange for four ALOC pallets worth of Class VIII to be loaded on most of the cargo planes heading into Kuwait, but it was still a slow process to push Class VIII forward. From 31 January to 1 February an initial joint MEDLOG conference was held in Kuwait. The big issue of the conference was to find a way to provide “maintenance” medicines for deployed troops. These were medicines that soldiers had long-term prescriptions for. All soldiers were supposed to deploy with a ninety-day supply of their prescription. The issue was the medical logisticians could not plan for the requirements since soldiers were coming from all over the world, were both active and reserve troops, and there was no long term relationship yet with a facility in Kuwait from which to build a consumption rate history. The solution was that the Projection Platform bases that deployed the troops had to give the deploying soldiers a 180-day supply of medicine and the soldier needed to have the prescription revalidated by a clinician at the 90-day point and reordered if necessary. This was a persistent problem throughout RSO&I.<sup>106</sup>

The 591st Medical Logistics Company was under the 30th Medical Brigade for command and control. The 591st first linked up with the newly arrived 30th on 20 February in Camp Virginia, Kuwait. The 591st was the sole MEDLOG unit for the Vth Corps, which the 30th supported. So it fell on the commander of the 591st, a captain instead of the lieutenant colonel

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<sup>105</sup>Goode, Interview; and Kissane, Interview; and Dole; and Fry.

<sup>106</sup>Fry; and Goode, Interview.



commander of a MEDLOG battalion, to articulate the MEDLOG support plan for the 30th at the 3d Infantry Division (Mechanized) combat service support rehearsal “rock drill” and at the 30th’s medical support rehearsal “rock drill” on 1 March.<sup>107</sup>

CENTCOM and CFLCC planners had two great concerns in the coming campaign in Iraq--Saddam Hussein using chemical weapons on the Coalition troops and the possibility that the Iraq Army and its supporting militias will abandon fighting in the open terrain, where they have a distinct disadvantage as they did in the Gulf War, and fortify and defend the urban areas. If this happens, it will force the clearing of the cities house-by-house and block-by-block similar to the battles of Hue in the Vietnam War and Grozny in the Chechnyan War in Russia. The casualties predicted for these two scenarios were staggering, both for Iraqis and Coalition troops, which necessitated the deployment of so many medical assets--three medical brigade headquarters, four combat support, one field and one mobile army surgical hospitals, ten forward surgical teams, and six air ambulance companies were on the TPFDL and Force Packages to meet this need.<sup>108</sup> The fear of a protracted, bloody fight drove the planning for the Iraq War.

The planners believed that Baghdad was the heart of the regimes power and when it fell Saddam Hussein’s power would be broken and the war would quickly come to an end. The plan to get to Baghdad called for the British to move from Kuwait to capture the southern city of Basra and for the U.S. forces, the Vth Corps and the 1st Marine Expeditionary Force, to drive north to Baghdad. The Vth Corps (made up of the 3d Infantry Division (Mechanized), and elements of the 101st Airborne and the 82d Airborne Divisions) was to utilize the highways to head roughly northwest and push past the towns of Nasiriah, Samawah, Najaf, Hillah, and Karbala. They would then capture the Saddam International Airport west of Baghdad as the support base for the battle of Baghdad. The Marines would move to Nasiriyah and then head north past Kut before

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<sup>107</sup> Goode, Interview; and Goode, After Action Report.

<sup>108</sup> John Keegan, *The Iraq War* (New York, NY: Alfred A. Knopf, 2004), 111; and Fontenot et al. 49-50, 55; and Rogers, Interview.



The real issue, as it is in every war, was how to sustain the fight over the great distances (it is 350 straight-line miles from the Kuwait border to Baghdad, much farther by the winding road network). With the Force Packaging concept pushing the logistical units later in the deployment cycle, much of the sustainment structure was not in Kuwait and functioning when the war began on 20 March. The lack of truck units was especially problematic. The goal of the drive north was to bypass the cities to secure the airfields that existed outside all of the major cities. These airstrips were key to the sustainment plan. They had to be secured and put into operation immediately after they were captured so C-130 cargo planes could begin flying in all classes of supply and therefore relieving much of the pressure on the ground transportation system. It was a big assumption that this could take place.<sup>110</sup>

One week before the ground war began; the 424th Medical Logistics Battalion arrived in Kuwait. This battalion was to stay in Kuwait to support the RSO&I process and to push supplies into Kuwait on the ground convoys. The 172d Medical Logistics Battalion arrived one day before the war. This battalion was to move into Iraq to support the Vth Corps on the drive to Baghdad. These units were key for medical logistics support if the planned for airfields were not put into operation in Iraq and the ground convoys had to be utilized. Neither of these units was capable of doing their mission when the war began. These Reserve units had addition challenges with personnel. The 172d deployed into Kuwait with 215 soldiers, only 50 of which were actual members of the battalion; the rest were from 42 separate active duty and reserve units sent to fill holes in the 172d roster. The first time they had been assembled was 26 January 2003 making any hope for a concerted team effort by the battalion difficult in the opening weeks of the war.

The problems with medical logistics were understood throughout the 3d Medical Command. Its commander communicated these issues to the CFLCC chain of command. He

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<sup>110</sup>Fontenot et al., 94-95 and Kissane, Interview.

also requested that the Army Surgeon General send his Assistant Chief of Staff for Logistics, the senior medical logistician in the U.S. Army, to Kuwait to assist in organizing the medical logistics support. The DCSLOG arrived on 14 March and stayed until June.<sup>111</sup>

CENTCOM was being urged to begin the ground campaign before the support structure was in place for several reasons, but the one that initiated the war was the fear that the Iraqis were preparing to set fire to the oil fields in southern Iraq. Intelligence was received on 19 March showing that oil had stopped flowing in the oilfields, a possible precursor to setting the fires, and so CFLCC attack began on the night of 20 March.<sup>112</sup>

The attack north by the Vth Corps made excellent progress, going 200 miles in 72 hours to Objective Rams near the city of An Najaf. The 3d Infantry Division (3ID) led the attack. They did not enter into the cities along the route, the idea was to bypass these sites to avoid an urban fight and maintain the momentum of the attack north to Baghdad. The airstrips were captured outside of the cities for Logistic Support Areas (LSAs) to be set up. It was believed that the drive north would be easy any Iraq units found in the open would be destroyed with most of the soldiers surrendering. The big fights anticipated were an armor battle near Karbala and urban fighting in Baghdad. By bypassing cities on the drive north, many urban battles could be avoided. What was unexpected was the almost complete collapse of the Iraqi units and the fragmenting of the soldiers into smaller groups. These smaller groups of soldiers, along with local militias and foreign Islamic radicals that had infiltrated into the country, put up a protracted and stubborn defense. The hope that the soldiers would surrender enmass and that bypassing the cities would eliminate the need to fight in them did not come to happen. The Iraqi forces used the cities as safe havens from which to launch numerous small attacks on the poorly armed and unarmored supply convoys following the armored units. This disrupted the already insufficient

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<sup>111</sup>Fry; Goode, Interview; Kissane, Interview, and Charles D. Clark, Captain, After Action Report, 172d Medical Logistics Battalion, Available from <http://call.army.mil/>, Internet, Accessed on 12 August 2005.

<sup>112</sup>Fontenot et al., 92-94.

logistical support convoys. More importantly to the support plan, these attacks made the airfields unsafe for planes to fly into, thereby eliminating a large part of the lift capability that was originally planned for. This stressed the ground transportation units even more.<sup>113</sup>

The Vth Corps expected to slow down or even pause once it reached An Najaf to bring forward supplies to prepare for the final push to Baghdad. This became a five day pause, from 25 to 29 March, because the ground transportation had to bring forward all the supplies, detailing of combat units to secure the Lines of Communication (LOCs), and a massive sandstorm that severely limited visibility for the convoys and combat troops. At each of the cities along the Army's route north, An Nasiriyah, As Samawah, An Najaf, Karbala, and Al Hillah, combat battalions had to set up defensive perimeters around the LSAs and conduct patrols and attacks into these cities to defeat the Iraqi forces that were coming out of these urban areas, the very fight the U.S. commanders had hoped to avoid. Large battles took place in each of these cities in the next ten days. Due to the unorganized and fragmented Iraq defense and poor use of terrain, Iraqi casualties were very high while U.S. casualties were kept to a minimum.<sup>114</sup>

By 4 April, the 3ID had seized Saddam International Airport west of Baghdad, the proposed LSA for the fight in the city. The original plan for the attack on Baghdad called for a string of forward operating bases to be created around the city and a force of mechanized and light units clearing the city. A series of armored raids, "Thunder Runs," into the city proved that the regimes defensive capabilities were collapsing. With the arrival of Marines from the south, the occupation of the governmental complex in downtown Baghdad by 3ID forces and the toppling of the Saddam Hussein statue on 9 April, the regime was effectively defeated. Fighting continued but against isolated insurgents.<sup>115</sup>

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<sup>113</sup>Keegan, 154-155 and Fontenot et al., 126, 144, 162, 209, 246, 265, 333.

<sup>114</sup>Fontenot et al., 242-243, 178, 245, 249, 255, 265, 267, 277, 286.

<sup>115</sup>Ibid., 303-304, 331, 335-337.

Until 6 April, the 591st Medical Logistics Company was the sole corps level MEDLOG unit in Iraq to support the medical units in Vth Corps. Of the sixty-seven soldiers in the 591st, thirty-one went forward with the 3ID's 703d Main Support Battalion with all the medical supplies they could carry. The thirty-six other soldiers in the company stayed behind initially to assist the newly arrived 424th Medical Logistics Battalion in opening the newly acquired warehouse 3 with Class VIII and continue supporting the MLST in issuing the APS equipment. The medical companies, platoons, and FSTs all had what was believed to be three to five days of Class VIII with them. Hospitals had thirty days, though their lack of organic transportation meant this was not all available at all times while they were convoying. It is very difficult to determine what a day of medical supply is, it totally depends on the number and type of casualties that are being treated at the medical unit. Each unit decides for itself what a day of supply is, for example, the 274th FST called the supplies used on ten major operations as a day of supply. What is believed to be five days of supply, may only be one if heavy casualties are taken. The best a unit can do is ensure its medical chests are full and ensure they have a clear understanding of the procedures for ordering and receiving more supplies as they are required. The 591st carried with them what they believed to be three to five days of supplies for the Level I and II medical units in Vth Corps and had the fifty additional pallets back in Kuwait waiting to be pushed into Iraq by the corps support battalions. The Level III facilities were relying on the airfields to receive re-supply from Qatar. The 591st carried an assortment of different supplies to include three forward surgical team re-supply sets, four trauma re-supply sets, four sick call re-supply sets, two chemical decontamination re-supply sets, two chemical treatment re-supply sets, oxygen cylinders, and 90 units of blood (five additional chemical patient decontamination sets and five additional chemical patient treatment sets were staged at the 86th CSH site in Camp Udari, Kuwait to be brought forward if chemical agents were encountered). Two Heavy Expanded Mobility Tactical Trucks, or HEMMTTs, (carrying three MILVANS and one refrigerator container), two stake and platform trucks and one 5-ton truck carried the supplies. They had their CASS-M computer and the

satellite dish in an EXPANDO van that was used as a tactical operations and automation center.<sup>116</sup>

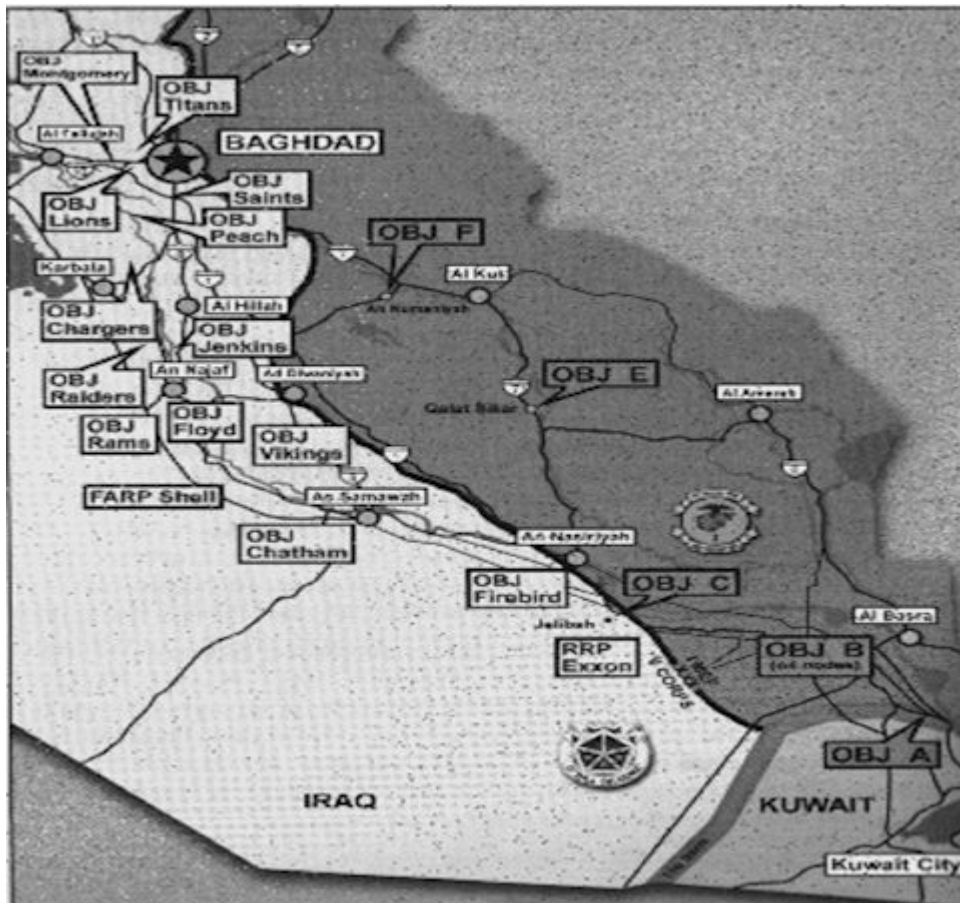


Figure 3. Ground Scheme of Maneuver in Iraq

Source: Gregory Fontenot, E.J. Degen, and David Tohn, *On Point: The United States Army in Operation Iraqi Freedom* (Fort Leavenworth, KS: Combat Studies Institute Press, 2004), 48.

The 591st moved into Iraq at 0600 hours on 21 March. The first objective was LSA Bushmaster near An Najaf. It took 96 hours to move the 235 miles to the objective, and the convoy they were in received small arms and rocket propelled grenade fire near An Nasiriyah. On 25 March the unit provided its first medical maintenance and issued the first of its Class VIII supplies to units in the LSA. The LSA was not secure and continued to receive small arms fire during the duration of the 591st's stay there. "Backhaul" of Class VIII, when an ambulance

<sup>116</sup>Goode, Interview; Goode, After Action Report; and Pope.

brings in patients to a higher medical facility and receives Class VIII to backhaul in their ambulance to their unit, was conducted here by units dropping patients off at the 212th MASH. The Level III hospitals also issued supplies for backhaul to units that requested them. This has been a common occurrence in past wars but, while it helped the units that were not near the 591st, it further depleted the hospitals, who sat at the end of a very tenuous distribution system, already limited supplies. The use of backhaul became more prevalent in the coming weeks, especially by air ambulances for the distribution of blood. Some of the fifty pallets that had been prepared and staged in Kuwait began to make their way forward on the Corps trucks at this time. The rest of the company moved forward in two groups, one by ground and the other by CH-47 helicopter (they also brought nine tri-walls filled with mostly pharmaceuticals); by 5 April the entire company was together at LSA Bushmaster. On 6 April the company moved north to LSA Dogwood near Karbala. It took two days to complete the 150-mile movement. Once there, the unit sent trucks back to LSA Bushmaster to retrieve supplies they were unable to carry with them on the initial trip. It was there that the 591st linked up with the lead elements of the 172d Medical Logistics Battalion that was finally able to push forward into Iraq. The 591st now came under the 172d operational control. The 172d brought no supplies with them into Iraq.<sup>117</sup>

What the 172d found was that Class VIII supply pallets were spread through all of the LSAs established throughout Iraq. The transportation units brought them forward into the country and dropping them where they dropped the other supplies on their trucks. If no MEDLOG personnel were there to claim the pallets, they were left where they sat. Talil Airbase near An Nasiriya, was the only one of the projected airstrips secure enough for the Air Force to fly into; it received its first flights on 26 March. The airbase is 150 miles into Iraq but still 100 miles south of LSA Bushmaster so Corps transportation assets were required to bring the supplies on the second leg of their journey. Class VIII was a low priority for movement, fuel, food and

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<sup>117</sup>Goode, Interview; and Goode, After Action Report; and Clark; and Fontenot et al., 147.



water, and ammunition were the top priorities and frequently bumped medical pallets. No Level III supplies were coming into Iraq yet, only the pre-staged pallets from the 591st, and now Class VIII from the new warehouse set up by the 424th back at Camp Arifjan, Kuwait, but these supplies were only for Level I and II facilities. Medical units were finding the unclaimed pallets and re-supply sets in the LSAs and pilfering what they needed from them since many could not find a medical logistics unit to draw supplies from. On 10 April, the 172d joined the 591st at LSA Dogwood and set up operations in three existing warehouses.<sup>118</sup>

On 18 April, the 591st moved to Baghdad International Airport and set up operations in a cargo handler warehouse. The 172d began shifting its operations to LSA Anaconda, located forty-five miles north of Baghdad near Balad, on 22 April. (They completed this move on 12 May.) Since the 172d only had the erratic iridium phones with which to send orders to Qatar, the battalion was incapable of ordering supplies and had to rely on the 591st's Tachyon satellite system to communicate with Qatar. The Division Medical Supply Offices were not yet utilizing TAMMIS, so the 172d could not find a demand history with which to begin ordering the supplies required by the medical units. Also, since they did not come into Iraq with an ASL of supplies, they had little to put on the shelves when they started operations. Units coming to the warehouses found that orders could be placed but little could be issued to them. The 591st assumed the humanitarian assistance for Class VIII. Medical supplies had been donated by international organizations and Middle Eastern countries and flown into Baghdad. The 591st was responsible for storing the supplies and arranging for its distribution. The country of Qatar donated 70 short tons of supplies, which the 591st had delivered to the Adnan Khair Allah Hospital in downtown Baghdad. While flights were arriving in Baghdad by late April, USAMMC-SWA was not able to begin flying in Level III supplies until May. This is where the 172d and 591st were located and

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<sup>118</sup>Goode, After Action Report and Clark.

engaged in when the end of major combat operations was declared by President Bush on 1 May 2003.<sup>119</sup>

Every medical unit after action report filed in the Army's Center for Lessons Learned and the Army Medical Departments Lessons Learned website from the Iraq War mentions the difficulties the units had with Class VIII supply. Problems mentioned include the minimal support they received in Kuwait and the complete lack of support once they crossed into Iraq; many units say they were able to re-supply only by discovering re-supply sets abandoned by other units or left in LSAs by convoys; they never had a single Class VIII push package sent to them during the war; their written orders were lost; orders took weeks to fill and even then were only partially filled; the issuing of TCAM during RSO&I, when it was understood that it could not be used by most units in Iraq, was a waste of time; the supply system was unresponsive to changing needs, such as additional sick call supplies; there was no visibility of Class VIII supplies flowing into Iraq; medical equipment repair parts could not be found; Class VIII distribution was not formalized until months into the war; transportation of Class VIII was too low a priority; and the MEDLOG support was not flexible enough to react to changing situations. Most of these issues were worked out by the end of May when the full complement of medical logistics units were in the theater and the medical units had stabilized in long term locations in Iraq, which facilitated communications and distribution cycles. By June, all medical units were reporting "green," or over 90 percent of their needs were being met, for their medical logistics situation. Since the numbers of U.S. casualties were minimal compared to pre-war expectations (March saw 65 U.S. servicemen and women killed and 202 wounded and April saw 73 killed and 340 wounded) the combat health support system, along with its medical supply system, was not stressed enough to show if it was truly capable of performing up to the Army's expectations, just as in the Gulf War. As stated in the book, *On Point*, "Logistics in OIF were less than an unqualified success." This

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<sup>119</sup>Goode, After Action Report; Clark; Fry; and Fontenot et al., 339.

was for a number of reasons but in the end, “The logisticians managed to keep up with the demand for critical supplies of war, but just barely.”<sup>120</sup>

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<sup>120</sup>Fontenot et al., 333, 408-409; and Kissane, Interview; and Pope; and Robert Lenza, Captain, After Action Report, 547th Medical Company (AS), 9 October 2003, Available from <http://lessonslearned.amedd.army.mil/>, Internet, Accessed on 13 October 2005; and 93d Medical Battalion, After Action Report, 20 May 2003, Available from <http://lessonslearned.amedd.army.mil/>, Internet, Accessed on 13 October 2005; and 1st Medical Brigade, After Action Report, Available from <http://lessonslearned.amedd.army.mil/>, Internet, Accessed on 13 October 2005; and James H. Day, 2d Armored Cavalry Regiment Medical Supply Office, After Action Review, 20 September 2003, email received 8 August 2005; and G-4 (Supply) 30th Medical Brigade, After Action Report, Available from <http://lessonslearned.amedd.army.mil/>, Internet, Accessed on 24 August 2005; and 101st Airborne Division, After Action Report of Medical Logistic Operations, Available from <http://lessonslearned.amedd.army.mil/>, Internet, Accessed on 7 September 2005; and Rodriguez, Captain, After Action Report, 62d Medical Brigade, 20 June 2003, Available from <http://lessonslearned.amedd.army.mil/>, Internet, Accessed on 13 October 2005; and Rodney S. Gonzalez, Captain, After Action Review, 3d BCT, 3ID (M), Available from <http://lessonslearned.amedd.army.mil/>, Internet, Accessed on 12 October 2005; and [www.globalsecurity.org](http://www.globalsecurity.org).

## CONCLUSION

A hospital without medical materiel is like an M-16A2 rifle without bullets.

ERMC News Release, 2003<sup>121</sup>

Military planners and commanding officers are constantly calculating risk before the execution of any operation. Since no situation will ever be perfect--there will always be bad weather, poor terrain, or shortages in some commodity or capability--it eventually falls to the commanders in the field to decide when the risk to be faced is outweighed by the capabilities of the attacking force. The commanders can only make these decisions when the information they have been provided is clearly presented to them so they fully understand the situation. It falls to the planning staff to ensure the commander is prepared to make the best decision possible. It is here that the difference between a calculated risk and recklessness is found.

Decisions that are studied from history are events that have already happened, so a student's perspective is as a "Monday morning quarterback" who is passing judgment after the fact. The difference between what is considered a calculated risk or a reckless decision is usually seen in the point of view of success; if the decision led to victory then it must be considered a calculated risk and the correct decision. If it led to failure, it was reckless and an incorrect decision. This is not always the proper viewpoint for a military officer in analyzing history. Since historical study is a huge part of an officer's education, it is important for them to view the situations as they were when the decision was made and weight to pros and cons as the commander did at the time. This perspective will give an officer a chance to practice this skill in

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<sup>121</sup>European Regional Medical Command News Release, 14 May 2003, Available from [www.healthcare.hqusareur.army.mil/ERMC-News/Releases/2003](http://www.healthcare.hqusareur.army.mil/ERMC-News/Releases/2003). Internet, Accessed on 10 February 2006.

an educational environment and better prepare them for making their own decisions in the future. Often, decisions that led to victory were bad decisions where the risk involved was too great. The decision was driven not by the realities of the army's capabilities but by outside influences, which made the decision a reckless one. Since the medical logistics system in Kuwait was not functioning in March 2003, it could not properly support the invasion of Iraq. Therefore, it was a reckless decision to attack into Iraq when the Coalition did.

To evaluate medical logistics in the Iraq War, the aspects gleaned from the retired logisticians in Chapter Two will be used. First, were medical logisticians involved at the highest levels of planning and decision-making? The answer is yes. Conferences were held at USAMMA, 3rd MEDCOM, and CENTCOM that involved operations and logistical officers from Battalion to Regional Command levels. From these conferences, detailed plans were written, and the TPFDL was built. The early involvement of medical logisticians set up the medical logistical system for success by building USAMMC-SWA and putting medical logistical units into the theater early in the deployment cycle. When the TPFDL was set-aside for Force Packages, all of this planning was ruined and the medical logistical system did not become fully functional until May 2003 because of it. The AMEDD must continue to ensure its early involvement in planning for operations to ensure it understands the support required and that their needs are fully communicated to the commanders and their staffs.

Garrison ordering procedures did not prepare units for a deployment to a new theater? The widespread practice filling out paper ordering forms at most Division Medical Supply Offices in garrison meant that, once deployed, units did not have the hardware, software, or knowledge to utilize a paperless electronic ordering system. The expectation of medical logistical units at the corps level and higher that this could take place shows the wide disconnect between divisional and corps and higher medical units. Standard operation procedures must be set up for garrison medical logistics that force units to practice as they will have to perform once deployed.

This must include providing the proper software (TCAM or DMLSS) and training to units by the AMEDD, expecting divisional units to seek out and resource such things is unrealistic.

Medical supplies were standardized in medical sets but many sets were altered during the deployment process. When the Office of the Surgeon General decided to field new equipment and materiel in the Fall of 2002, they put a burden on the medical logistical community that they did not predict. The lack of familiarity with the equipment meant operators and maintenance technicians did not know how to use or maintain the equipment properly. Repair parts could not be obtained because they were not yet put into the system before the equipment was deployed. Standardization is done to alleviate problems like this. Ignoring this and fielding new items as the units were deploying only added to the confusion in an already difficult situation. The AMEDD leadership must refrain from such actions in the future. The standardization process done at USAMMA works well and must not be undercut.

Communications were an issue for medical units in the Iraq War. More specifically, the ability to send information electronically was severely hampered by inadequate technology. The peacetime practices were not able to be replicated in wartime, this was especially true in ordering Class VIII. Since the preferred method of ordering is through TAMMIS, medical units, to include Division Medical Supply Offices, must be provided portable satellite dishes. This will enable them to stay in communication no matter how separated and isolated they become. If this cannot be done, then electronic ordering must not be the expectation in future deployments.

Transportation was not a big issue for medical logisticians. USAMMC-SWA and 3d Medical Command stayed in close coordination with the movement control centers in Qatar and Kuwait, respectively. This facilitated the transfer of Class VIII pallets from Qatar to Kuwait and from Kuwait into Iraq. Since there were only fifty pallets to be moved into Iraq in the opening weeks of the war, this was not much of an accomplishment. Had there been heavy U.S. casualties and critical Class VIII needed to be pushed into Iraq, the lack of transportation assets organic to medical logistical units would have become an issue. The regular transportation system was

already stretched to its limits, adding in hundreds of Class VIII pallets would have been difficult to do. Medical units should have additional transportation capabilities allotted to them to lessen their dependence on other units and ensure a consistent flow of supplies.

Establishing the regional medical supplies warehouse in Qatar had implications for medical readiness in the Iraq War. Placing the warehouse in Qatar made sense in the summer of 2002 when Qatar was the logistical hub for the troops in Afghanistan, Kuwait, and the Horn of Africa. Millions of dollars were spent over several months to improve the facility. To shift that to Kuwait when the build up for the Iraq War began was not possible. The intent was to make USAMMC-SWA in Qatar similar to the medical logistics depot that was in Okinawa during the Vietnam War. That regional depot provided supplies to Japan, Korea, and Vietnam. The difference was that forward medical logistics warehouses existed in those locations where units could draw supplies. Nothing like that existed in Kuwait outside of a clinic warehouse. USAMMC-SWA was also not as effective as USAMMC-Saudi Arabia from the Gulf War. Since USAMMC-Saudi Arabia was located in the same country as the deploying troops, if all else failed the medical units could drive to the medical warehouse and order and pick up the supplies they needed. This was not possible during the Iraq War since the only warehouse was in Qatar and the medical units were in Kuwait.

Locating the regional warehouse in Qatar would not have been an issue if a warehouse could have been set up in Kuwait. This was what was planned for during the medical planning conferences in the Fall of 2002. The two medical battalions and the medical company that were to deploy into Kuwait between December 2002 and February 2003 would have had the manpower and resources to take over a warehouse at Camp Arifjan and prepare it to support 250,000 U.S. service men and women. When those units were pushed later in the deployment cycle, the Class VIII support structure could not be built and proper support could not be provided. Since there was no medical warehouse in Kuwait and the 591st Medical Logistics Company was so small, no troops were available to build Class VIII push packages. When the campaign began, the only

supplies available to be sent into Kuwait were the fifty pallets to re-supply the 591st, an inadequate amount to support the invading army. In the future, senior medical commanders and their staffs must continuously strive to get medical logistics units into a new theater early in the deployment cycle to ensure that a proper support structure is in place when the combat and support troops begin arriving. The late deployment of medical logistical units was the single biggest problem with medical logistics in the Iraq War.

The risk inherent in beginning the ground war on 20 March was well understood by the medical logistics community and they ensured the commander of the 3d Medical Command knew it. He in turn informed the CFLCC commander and the Army Surgeon General who sent his Assistant Chief of Staff for Logistics to Kuwait for three months to assist in organizing the chaotic situation. How much the CFLCC and CENTCOM commanders truly understood the dire situation of the medical logistics situation is not known. What can be said is that the greatest fears of the CFLCC were to be attacked with chemical agents and to be pulled into a long-term fight in urban areas. Luckily, the chemical attacks never took place, but the urban fight did. The plan to bypass the urban areas on the drive north did not work; the enemy used these areas for cover from which they attacked the vulnerable U.S. supply convoys. Within a week of the beginning of the war, the Vth Corps was involved in urban combat in every major city up to Karbala. It was only the unorganized, leaderless, and reckless nature of the urban combat that enabled the U.S. forces to defeat the enemy in a relatively short amount of time. Had the urban fight been better run by the Iraqi's, a Grozny type scenario could have developed bringing on thousands of U.S. casualties. To have committed the CFLCC forces to combat when the greatest worry was chemical agents and urban combat, scenarios that produce mass casualties, when the MEDLOG system was effectively inoperable during the first two weeks of the war was hardly a calculated risk, it was reckless.

The logistics community made the assumption that the airfields located near the cities in Iraq would be quickly secured and able to receive C-130 cargo flights from Qatar. It was through



this means of re-supply that all Level III, Class VIII was to enter Iraq and also part of the Level I and II supplies. This assumption proved to be wildly optimistic and in fact only one airfield, near An Nasiriyah, was open by the time the troops were fighting in Baghdad. With the lack of Class VIII in Kuwait, the overworked ground distribution network, and the inability to fly Class VIII into Iraq, the medical units supporting the combat units provided medical support with only the supplies they had on hand. They could not rely on any re-supply during the maneuver phase of the Iraq War. This was especially true for the divisional medical platoons and companies. If they had received heavy casualties, the units could have been completely out of Class VIII supplies in a matter of days. The only re-supply available was the supplies on the 591st Medical Logistics Companies five trucks and the fifty wooden pallets staged back in Kuwait. Whether the distribution system could deliver the pallets when they were needed was another difficulty. It was a situation where catastrophe was possible.

The risks taken by the senior commanders ended up being non-issues, the war against Saddam Hussein's regime was won. Therefore, the decisions of the commanders will be viewed by many as correct ones with audacity being the key to this victory. In the medical field, accepting the results of the war as justification or vindication for the support provided is a problem. As mentioned in the lessons learned from the Gulf War, the combat health support system in the Gulf War was not stressed and therefore not sufficiently tested. It was the same in the Iraq War. Because of this, to assume that the system provided the proper support and was capable of anything required of it is a bad assumption to make. In fact, the medical logistics system in March and April of 2003 was not capable of providing proper support to the troops in the front lines. Only the weakness of the enemy's leaders enabled American weapons, vehicles, and personnel to so quickly defeat Saddam's regime and keep the U.S. casualty count so low. To assume the next conflict will be against an equally weak and ineffective enemy is a dangerous belief to hold.

In the end, the medical logistics support provided was able to serve the needs of the U.S. forces engaged. This was possible only because the MEDLOG junior officers, non-commissioned officers, and enlisted personnel were determined and proactive enough to find ways to make the MEDLOG system work. As the commander of USAMMC-SWA said, “They did it in spite of their leaders’ failures to properly plan, resource, and implement the concept of support and supply chain that was necessary to accomplish the mission.”<sup>122</sup> It is these soldiers that must learn from the mistakes and successes of the Iraq War and better prepare to implement medical logistics support in future conflicts.

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<sup>122</sup>Fry.

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