

The Application of Operational Art to Health Service Support: A Case Study of the Korean and Vietnam Wars

A Monograph

by

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Abstract

The Application of Operational Art to Health Service Support: A Case Study of the Korean and Vietnam Wars, by MAJ Brian M. Downs, US Army, 58 pages.

Health Service Support (HSS) planners have endured static healthcare operations over the last 15 years during operations in Iraq and Afghanistan. As training centers have refocused evaluating units on decisive action, observer controllers have noticed a skill gap in the ability of units to plan HSS operations in these rapidly changing combat environments. This paper proposes that an analysis of the difference between the conduct of HSS operations during the opening six months of the Korean War, contrasted with the stable HSS operations in the Vietnam War, would provide insight in to how to successfully conduct HSS operations during maneuver warfare in future conflicts. This analysis is conducted utilizing three elements of operational art: operational reach, basing, and risk. The Korean and Vietnam Wars are analyzed as case studies using a structured focus question comparison. These focus questions center on four elements of HSS operations: medical mission command, medical evacuation, patient regulation, and medical logistics. The primary finding of the research is surprising, and contradicts one of the three proposed hypotheses. In fact, HSS operations were not well planned out during the Korean War due to no forethought for execution of operations on the Korean peninsula when war was declared. This resulted in a HSS operation that was constantly reacting to crises and competing for resources in an interwoven logistics system. This was compounded by a lack of organic medical command headquarters, an independent system of medical logistics, and dedicated aerial medical evacuation resources. In contrast, medical operations in Vietnam were much more successful because of HSS plans that contained these traits. The takeaway is that for HSS planning, having an organic medical mission command structure with dedicated medical functions and expertise throughout the continuum of care from injury to CONUS results in the most successful HSS operations.

Contents

Acknowledgement.....	v
Acronyms	vi
Figures.....	viii
Introduction	1
Literature Review	6
Methodology	12
Case Studies	14
Korean War Case Study	14
Vietnam War Case Study	31
Findings and Analysis	46
Conclusion.....	53
Bibliography	56

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Acronyms

ADP	Army Doctrine Publication
ADRP	Army Doctrine Reference Publication
ATP	Army Techniques Publication
AHS	Army Health System
AMEDD	Army Medical Department
ARVN	Army of the Republic of Vietnam
CONUS	Continental United States
CTZ	Corps Tactical Zone
DNBI	Disease and Non-Battle Injury
FEAF	Far East Air Force
FHP	Force Health Protection
FM	Field Manual
HSS	Health Service Support
JLCOM	Japan Logistical Command
JRTC	Joint Readiness Training Center
MACV	Military Assistance Command Vietnam
MAF	Marine Amphibious Force
MASH	Mobile Army Surgical Hospital
MEDEVAC	Medical Evacuation
MRO	Medical Regulating Officer
NATO	North Atlantic Treaty Organization
NVA	North Vietnamese Army
PACFLT	United States Pacific Fleet
ROK	Republic of Korea

RVN	Republic of Vietnam
TO&E	Table of Organization and Equipment
UN	United Nations
US	United States
USARPAC	United States Army Pacific
USMC	United States Marine Corps
VC	Vietcong

Figures

1	Organizational Chart of Eighth Army Corps, Division, and Non-Divisional Medical Battalion Equivalents in August 1950.	18
2	Medical Evacuation in Korea, September 1950.....	25
3	Medical Command and Control from 1 May 1966 through 10 August 1967	35
4	Medical Command and Control from 10 August 1967 – 1 March 1970	36
5	Medical Evacuation in Vietnam, 1965-1970	40

Introduction

The United States Army has been conducting health service support (HSS) operations in a counterinsurgency environment for over fifteen years, since the first troops arrive in Afghanistan in 2001. In that time, the US Army has adapted its tactics, techniques, and procedures to deal with the critical issues facing wounded Soldiers in that environment. The Army Medical Department (AMEDD) and the US Government executed several initiatives to improve field medical care for the wars in Iraq and Afghanistan, including: Tactical Combat Casualty Care, Mine Resistant Ambush Protected Vehicles, and a “Golden Hour” medical evacuation policy.¹ All of these have worked well in the current environment of Iraq and Afghanistan. But, with the focus on HSS in a sustained counterinsurgency environment, medical professionals have lost critical skills for providing flexible HSS plans in rapidly changing environments.

The last protracted ground war that the United States Army fought that included a rapidly changing operational environment over several months was the Korean War. Since then, the majority of conflicts have been fought from bases requiring little movement of sustainment forces. This includes medical assets and facilities. The cadre at the Joint Readiness Training Center (JRTC) noticed that HSS planners are used to conducting medical operations in a mature counterinsurgency environment.² This has led to medical planners having difficulty coping with HSS planning in the continually changing operational environment encountered at JRTC.³

This paper proposes that medical planners who study the lessons learned from planning HSS in the continually changing environment of the Korean War can use operational art to apply

¹ Russ Kotwal, et. al., “The Effect of a Golden Hour Policy on the Morbidity and Mortality of Combat Casualties,” *JAMA Surgery* (September 30, 2015): E1, accessed October 1, 2015, <http://archsurg.jamanetwork.com/>.

² Thomas Collins, “The Challenges of Planning HSS in a Decisive Action Training Environment,” *Decisive Action Training Environment at the JRTC, Volume XI*, no. 16-08 (February 2016): 9.

³ Ibid.

those lessons learned to healthcare on the modern battlefield. The purpose of the study is to explore the relationship between deliberately planned healthcare operations in a rapidly changing environment and its effects on casualty care, patient regulation, medical logistical support, and medical command and control. The second purpose of this study is to explore the relationship between these same variables in an environment where HSS is delivered from stationary bases that do not move. Finally, this study examines how medical command and control entities utilized elements of operational art in order to provide HSS in their respective combat environments.

The significance of this study is that there is a need to improve effective HSS planning in a combined arms maneuver environment. The US Army does not know what its next conflict will be, so medical planners need to have a variety of tools and resources to effectively plan for the myriad of possible contingency operations. Therefore, by taking past successful operational considerations and applying them to modern HSS capabilities, medical planners can close the gap on lost operational knowledge.

The key idea of this case study is the concept of HSS in combat. HSS encompasses all “support and services performed, provided, and arranged by the Army Medical Department to promote, improve, conserve, or restore the mental and physical well-being of personnel in the Army.”⁴ This support can be extended to sister services, allies, partnered forces, contractors and local populations based on agreements and the nature of the conflict.

The case studies use elements of operational art for analysis. For the Army, operational art is accomplished by sequencing tactical actions in time, space, and purpose to help achieve strategic

⁴ There are two definitions for HSS included in Army Doctrine Reference Publication (ADRP) 1-02. The first definition is all encompassing for the Department of Defense. Since this paper is focused on the Army’s application of operational art to HSS, the Army definition listed is the definition used for this paper. Army Doctrine Reference Publication (ADRP) 1-02, *Terms and Military Symbols* (Washington, DC: Government Printing Office, 2015), 1-40.

objectives.⁵ The elements of operational art help unit commanders and staffs understand their operational environments, as well as provides a method to visualize and describe actions in time and space. Specifically, this study will evaluate the concept of HSS in relation to the elements of operational reach, basing, and risk.

Three hypotheses guide this study. First, when planners during the Korean War planned healthcare operations to support units in the rapidly changing operating environment, then there was faster evacuation, greater medical care, easier logistical support and better command and control compared to warfare from fixed bases of operation. The second hypothesis is that when planners during the Vietnam War planned healthcare operations to support units from fixed bases, then there was faster evacuation, greater medical care, easier logistical support and better command and control, compared to maneuver warfare. The third hypothesis is that when the elements of operation art are applied to HSS in Korea and Vietnam, then medical command and control elements were responsible for the synchronization and coordination of hospital location, patient movement, and medical logistics.

This paper will examine the listed hypotheses using a structured focus comparison of HSS in Korea and Vietnam. This paper will use four questions to analyze the comparison. The first question is, “what was the medical command and control in each conflict?” The second question is, “who was responsible for the coordination and movement of medical material?” The third question is, “how were patients regulated, and who was the controlling agency?” The final analysis question is, “what were the theater level HSS plans and policy for each case?”

The first and fourth questions are important to answering the hypotheses because they inform how policy and command and control increased or decreased the risks to the HSS mission, risks to the deployed force, and ultimately risk to patients. The answer to the second, third and

⁵ ADRP 3-0, *Unified Land Operations* (Washington, DC: Government Printing Office, 2012), 4-1.

fourth questions are important to the hypotheses because their answer will show how resilient the HSS systems were, and how that resilience related to the system's operational reach. This includes the ability for HSS assets to reach patients for evacuation, as well as the ability for hospitals to handle disruption and variation in patient flows while maintaining a high standard of care. The third and fourth questions are important to the hypotheses because their answers will reveal the success or failure of basing. The plans and policies in place at the start of the war will determine where mobile and fixed facility assets will go and how they will support the fighting forces. The resultant posture and policies enacted will directly affect the HSS system's operational reach and resultant system risk.

In order to narrow the focus of the study to key concepts, some restraints have been added intentionally. Due to resources available, the study is limited to use of secondary sources. Additionally, the HSS case study of the Korean War will only focus on the timeframe between the allied breakout from Pusan and the beginning of the stalemate between North and South Korea, on the 38th parallel in 1951. This encompasses the period of time that the operational environment continued to change rapidly for allied fighting forces.

The primary assumption this study makes is that the US will conduct maneuver warfare in high intensity conflict in the future. Because of this, an additional assumption is the Korean War is the most appropriate example for the analysis of expanding and contracting HSS in a rapidly changing operational environment.

This study is organized into six sections. This first section is the introduction that includes the background to the study and the statement of the problem. The second section is the literature review. This section includes an analysis of theoretical, conceptual, and empirical literature that establishes the foundation for this study. The third section outlines the methodology of the structured focus comparison of the two case studies, the Korean and Vietnam Wars. The fourth section analyzes the two case studies based on the research questions presented. The fifth section

outlines the findings of the case study and discusses similarities and differences between the two case studies. Finally, the sixth section includes the conclusion and importance of the findings.

Literature Review

The literature review is intended to provide an overview of the literature that will serve as the foundation for analysis. The literature review has three parts. The first part discusses the theoretical framework. The second part discusses key concepts to understanding the context of HSS. The final part discusses the empirical literature that forms the foundation of this paper.

First, the theoretical framework for this paper is based on three of the elements of operational art. The elements of operational art assist Army commanders and staff assess their environment and operations. The US Army defines operational art as, “how commanders balance risk and opportunity to create and maintain the conditions necessary to seize, retain, and exploit the initiative and gain a position of relative advantage while linking tactical actions to reach a strategic objective.”⁶ Next, this definition will be examined in two parts.

It is important to understand the end component first. The end of the definition is, “linking tactical actions to reach a strategic objective.” When the Army goes to war, there is a desired end state that the American government wants to achieve. It is the responsibility of the military leadership to create a military plan that translates those national goals into executable missions for military units to achieve. Now to tie that idea to the first component of the definition.

When executing a war, decisions involve a constant set of trade-offs. Each time a military unit is committed to a course of action, it prevents them from taking action somewhere else at that same moment. Commanders must weigh this balance between risk and opportunity. Each time a unit commits to an action the commander is trying to seize an opportunity at the risk of taking casualties, creating a vulnerability, or being able to choose a different action. These decisions are intended to seize the initiative and achieve a position of relative advantage over the enemy. In

⁶ ADP 3-0, *Unified Land Operations* (Washington, DC: Government Printing Office, 2011), 10.

order to determine if the opportunity is worth the risk, military planners use the elements of operational art to evaluate their plan.

Army commanders and staffs use the elements of operational art to assess their operational environment and to plan and execute future operations. There are ten elements of operational art: end state and conditions, center of gravity, decisive points, lines of operations and lines of effort, operational reach, basing, tempo, phasing and transitions, culmination, and risk.⁷ Of these ten elements, three will be used in this analysis of the case studies: operational reach, basing, and risk.

Operational reach is the distance and duration a military force can successfully employ its capabilities.⁸ This employment considers how the force can move, resupply, fight, protect, and sustain itself. When the force cannot continue to do one of these tasks, then it has reached the end of its operational reach and culminated. From a HSS perspective, operational reach is the Army's ability to perform the spectrum of combat healthcare operations from casualty collection, through medical treatment and rehabilitation in order to return personnel to duty as quickly as possible, without exhausting all HSS resources. To reach the casualties, evacuation platforms and hospitals need a base of operations.

The element of basing is a location from which military operations are projected or supported.⁹ Basing in relation to troop location is very important for HSS. The distance between the base and army forces determine the frequency patients can be evacuated from the battlefield with limited resources. Additionally, the size and location of the base can factor into the size

⁷ ADRP 3-0, *Unified Land Operations*, 4-3.

⁸ Joint Publication 3-0, *Joint Operations* (Washington, DC: Government Printing Office, 2011), II-9.

⁹ ADRP 3-0, *Unified Land Operations*, 4-6.

treatment facility that must be established and operated in a given area to appropriately treat casualties.

Military planners constantly assess the operational reach of their military forces in combat and the bases from which they are operating and being supported. This assessment is an evaluation of risk. Commanders accept risk to create opportunities and achieve decisive results.¹⁰

In order to maintain its operational reach, the Army needs to sustain itself. The sustainment warfighting function is one of the eight elements of combat power.¹¹ Within the sustainment warfighting function there are three major elements: logistics, personnel services, and HSS.¹² The primary focus for this paper will be on the Army's HSS.

It is important to note that the term HSS is a subcomponent of the Army Health System (AHS). The AHS is comprised of two missions: HSS and Force Health Protection (FHP). The HSS mission includes all tasks completed by the AMEDD to promote, improve, conserve and restore the behavioral and physical well-being of personnel. This includes the tasks of casualty care, medical evacuation, medical logistics, behavioral health and hospitalization.¹³

The FHP mission supports the protection warfighting function. The purpose of FHP is to enable a healthy and fit force, prevent injury and illness, and protect the force from health hazards.¹⁴ Some of the tasks included in FHP are medical surveillance, occupational health, food inspection, animal veterinary care, combat operational stress control, and preventative dentistry. Personnel who become sick or wounded from any of these causes are generally categorized as a Disease and Non-Battle Injury (DNBI) casualty. Death and casualties due to disease is an

¹⁰ ADRP 3-0, *Unified Land Operations*, 4-9.

¹¹ *Ibid.*, 3-1.

¹² ADRP 4-0, *Sustainment* (Washington, DC: Government Printing Office, 2012), 1-1.

¹³ Field Manual (FM) 4-02, *Army Health System* (Washington, DC: Government Printing Office, 2013), 1-3.

¹⁴ *Ibid.*

important topic. For the United States Army from the Revolutionary War to World War II, death due to disease took the lives of more soldiers than combat wounds did. It was not until World War II that vaccines and antibiotics were available in sufficient quantity to reverse the trend and finally make disease less deadly than traumatic combat injuries.¹⁵ Although the topic of preventive medicine is important, it exceeds the scope of this monograph.

This monograph will focus on medical mission command and the three components of HSS: casualty care, medical evacuation, and medical logistics. Medical mission command is codified in the idea of a seamless continuum of care for wounded personnel on the battlefield.¹⁶ This means that once a casualty has started the process of evacuation, that individual is controlled and cared for by the medical personnel that treat and evacuate him/her until he/she is rehabilitated and released, or he/she arrives in the continental United States (CONUS) for further treatment. This mission command system coordinates and synchronizes the HSS components to ensure that the medical system is prepared and ready to accept new casualties into the system.

The need to understand operational art and its application to HSS is important for future application of HSS planning in combat environments. After fifteen years of war in Iraq and Afghanistan, military healthcare has grown accustomed to operations from bases that generally stay static for the duration of the war. The medical facilities are often placed in permanent buildings and rarely have to move to a new location.

The art of treating, evacuating, and caring for patients on a dynamic battlefield, where medical assets are constantly being repositioned, is a critical skill that appears to have atrophied

¹⁵ Vincent J. Cirillo, "Two Faces of Death: fatalities from disease and combat in America's principal wars, 1775 to present," *Perspectives in Biology and Medicine* 51, no. 1 (Winter, 2008): 121-33, accessed September 22, 2016, <https://lumen.cgsccarl.com/login?url=http://search.proquest.com.lumen.cgsccarl.com/docview/233167721?accountid=28992>.

¹⁶ FM 4-02, *Army Health System*, 2-1.

across the Army. JRTC highlighted deficiencies in planning and synchronization in medical planning in at least ten unit rotations over the last three years.¹⁷ These training rotations place units in an environment that are constantly changing and require adaptation. The training environments include threats that are guerilla, insurgent, criminal, and near-peer conventional forces. All of these environments require adaptive HSS plans that change with the operational unit's maneuver plans.

This topic is important because it highlights a lack of capability for two of the AHS principles: flexibility and mobility. In the environments of Iraq and Afghanistan, the Army has been very good at the other principles of the AHS: control, conformity, continuity, and proximity.¹⁸ There is a gap in research on whether the AHS did or did not incorporate flexibility and mobility into their plans in order to coordinate and synchronize battlefield healthcare in the Korean and Vietnam Wars. This topic exceeds the scope of this paper, which will focus on the elements of operational art.

The purpose of exploring the three hypotheses is to fill a gap in research. The hypotheses are designed to determine the similarities and differences between deliberately planned healthcare operations to support units in maneuver and based operations warfare when viewed through the lens of operational art. This will create a compare and contrast analysis on how those plans translated to patient evacuation, medical care, logistical support, and command and control of medical units. There is currently no literature that discusses the use of operational art in planning and executing HSS in the Korean and Vietnam Wars. The purpose of this paper is to help close that gap.

¹⁷ Collins, "The Challenges of Planning HSS in a Decisive Action Training Environment," 9.

¹⁸ FM 4-02, *Army Health System*, 1-5.

In summary, this section served to discuss the theoretical, conceptual, and empirical foundation of this research paper. The theoretical framework for the case studies is three elements of operational art: operational reach, basing, and risk. The key concepts for this research are the organization of the AHS and how HSS and FHP fit into that system. Lastly, the empirical foundation for this research is based on recent trends showing a lack of proficiency by HSS planners to create adaptable plans in rapidly changing operational environments. The following section is the methodology section, which will discuss how the case studies will be conducted.

Methodology

The methodology for this paper will be completed by conducting a structured focus comparison to examine two case studies. The first case study will analyze the Korean War. The second case study will analyze the Vietnam War. Each case study will be examined using research questions to focus the study.

The structured focus comparison is the best method for this study because it allows the study to focus on what can be a very broad topic. The spectrum of medical care and HSS of troops in combat is too broad a topic for the scope of this paper. Therefore, the paper uses four specific questions to narrow the focus. The purpose of the two case studies is to determine if there are significant differences in the application of operational art to HSS from the different types of warfare used during the Korean and Vietnam Wars.

The reason why these two wars are different is in the manner with which they were fought. The Korean War from the breakout of Pusan to the stalemate on the 38th parallel was a mobile war that required maneuver over hundreds of miles. The Vietnam War was a very different type of war, in that it was fought from primarily from static bases. This study will look at four specific questions to analyze these two case studies.

The first question is, “what was the medical command and control in each conflict?” The answer to this question will determine if there was an organizational difference in how medical evacuation, treatment, and logistics units were organized. Also, this question will answer the type of relationship that medical units had with each other and with other combat organizations. The command and control organization’s ability to effectively coordinate and synchronize HSS across the theater relates to the element of risk.

The second question is, “who was responsible for the coordination and movement of medical material?” The movement of medical material is essential for medical units to receive supplies in order to continue patient care. An inability to move medical material would result in a

reduction of care at the point of injury, and reduce the capability of surgical units and hospitals to continue receiving patients. This is important for the operational reach of medical capability.

The third question is, “how were patients regulated, and who was the controlling agency?” The intent of this question is to discuss how and where patients are moved, and which unit moves them. The question analyzes the movement of patients from the point of injury through treatment at a hospital on to a final location for rehabilitative care. This addresses the tenets of operational reach and basing.

The final question to be analyzed is, “what were the theater level HSS plans and policy for each case?” This question looks to identify if the elements of operational art were applied to the theater level medical plans, and what were the considerations for basing, supporting the operational reach of maneuver units, and any risk that theater commanders planned to assume. Also, the theater level plans will help address the organization and command and control structure for medical units assigned to each theater.

The data and evidence for this study will be from secondary sources. The majority of these sources are US Army historical studies and documents from the two wars and books detailing medical or logistical support for the Korean and Vietnam Wars. By evaluating operational art within the context of HSS, the case studies will show the key operational factors employed during the Korean War, but not employed in Vietnam, that were critical to success of the medical mission in a rapidly changing operational environment.

The methodology for this research is going to be a structured focus comparison of two case studies. The purpose of the structured focus comparison is to narrow the scope of the study to focus specifically on four research questions to analyze the hypothesis. The material for this study will be primarily from secondary sources. The study will be evaluated against the elements of operational art. This section will be followed by the case studies.

Case Studies

This section will discuss in details the case studies that form the foundation of the analysis. The first portion of this section will focus on the Korean War case study. There will be an overview of the case study to frame the overall context of the analysis. The overview will be followed by a detailed look at the four structured focus questions. Lastly, the portion will have a conclusion about key points of the case study. Then, the section will transition to the Vietnam Case Study. This portion will also contain an overview for context, followed by the structured focus questions, and a conclusion of key points.

Korean War Case Study

On June 25th, 1950, North Korean Forces invaded South Korea.¹⁹ The South Koreans were completely surprised. The combination of tactical surprise and military superiority routed all Republic of Korea (ROK) forces in the vicinity of the 38th parallel.²⁰ North Korea's goals were to capture the capital city of Seoul and the entire South Korean peninsula. On the days immediately following, the United Nations (UN) and the United States (US) called for an immediate withdrawal of the hostile forces. President Truman authorized US military forces to assist the ROK army in defeating the North Koreans.

On July 4th,²¹ the first allied military forces helped defend the South Korean peninsula with the ROK troops. On July 5th, the North Koreans attacked Task Force Smith²² and decimated

¹⁹ R. Ernest Dupuy and Trevor N. Dupuy, *The Harper Encyclopedia of Military History*, 4th ed. (New York, NY: Harper Collins Publishers, 1993), 1355.

²⁰ Roy Appleman, *Korea – 1950* (Washington DC: Center of Military History, United States Army, 1997), 13.

²¹ James L. Stokesbury, *A Short History of the Korean War* (New York, NY: William Morrow and Company, Inc., 1988), 45.

²² Task Force Smith was the first US Army contingent sent to Korea from the US 24th Division stationed in Japan. They were airlifted to Pusan while the rest of the division was sent to Korea by boat. They raced north to support ROK troops as soon as they could. Appleman, *Korea -1950*, 14.

the force. For the remainder of the month of July, the South Korean and United Nations forces fought to slow down the North Korean advance while troops were still arriving.²³ By the beginning of August, Lieutenant General Walton H. Walker was in command of the Eighth Army. He setup a defense to maintain a foothold in the country.²⁴

The foothold became known as the Pusan Perimeter. It ran 90 miles north and south along the Naktong River.²⁵ At the north end of the river, the defensive positions ran 60 miles east to the Sea of Japan. Here LTG Walker held his defensive positions to increase the size of his force and plan for offensive operations.

The first offensive operation was an amphibious operation. The operation was an idea that General MacArthur had been thinking about since early July.²⁶ The offensive operations began on September 15th, 1950, with Major General Edward Almond landing the United States X Corps on the beaches of Inchon.²⁷ This amphibious assault achieved strategic surprise and allowed the forces to secure Gimpo airport in Seoul. Simultaneously, the elements of Eighth Army conducted an offensive out of the Pusan Perimeter with the intent to push the North Korean forces back as well as secure a ground line of communication between the Eighth Army forces and the Incheon landing forces.

September 26th is important for two reasons. First, it was the day that Seoul was liberated from North Korean forces.²⁸ Secondly, it was also the day that Eighth Army forces linked up with

²³ David Halberstam, *The Coldest Winter: America and the Korean War* (New York, NY: Hyperion, 2007), 150.

²⁴ Appleman, *Korea-1950*, 77.

²⁵ Dupuy and Dupuy, *The Harper Encyclopedia of Military History*, 1356.

²⁶ Halberstam, *The Coldest Winter*, 294.

²⁷ T.R. Fehrenbach, *This Kind of War: A Study in Unpreparedness* (New York, NY: The Macmillan Company, 1963), 245.

²⁸ Fehrenbach, *This Kind of War*, 251.

the Incheon landing forces.²⁹ With Seoul liberated, the forces received guidance from the UN and President Truman that they should proceed north of the 38th parallel and pursue the North Korean army.

ROK forces crossed the 38th parallel on October 1st, followed by United Nations forces on October 9th.³⁰ Their first objective after was to secure the North Korean capital. Pyongyang was captured by UN forces on October 20th.³¹ For the next month, the ROK and UN forces would continue to push back the North Korean army all across the country. Finally, on November 24th, ROK and US forces had secured the country of North Korea all the way to the Yalu River.³²

During October and November, the Chinese government sent warnings that they would intervene on the behalf of North Korea, if ROK or UN troops passed north of the 38th parallel. The UN leadership thought that this was a bluff until ROK Forces were attacked south of the Yalu on November 1st.³³ Then, on November 25th, the Chinese Communist Army launched a massive surprise counteroffensive.³⁴

In the western half of Korea, the Chinese forces invaded with about 180,000 troops. On the eastern front, the Chinese forces invaded on November 27th with an additional 120,000 troops.³⁵ The Chinese Communist forces were extremely successful in their attacks. The UN forces were confined to operations near roads because of their reliance on heavy artillery, tanks, and support trucks. However, the Chinese Communist forces were a very mobile light infantry force. Marching and carrying everything by foot allowed the Chinese to move freely through the

²⁹ Appleman, *Korea-1950*, 150.

³⁰ *Ibid.*, 151.

³¹ Stokesbury, *A Short History of the Korean War*, 90.

³² Appleman, *Korea-1950*, 227.

³³ Dupuy and Dupuy, *The Harper Encyclopedia of Military History*, 1358.

³⁴ Halberstam, *The Coldest Winter*, 402.

³⁵ Dupuy and Dupuy, *The Harper Encyclopedia of Military History*, 1359.

terrain and attack from directions that UN forces were incapable of defending against. The Chinese counteroffensive was devastating to ROK and UN forces. At the end of December 1950, the ROK and UN forces had retreated and consolidated in defensive positions at the 38th parallel and hoped to hold there.³⁶

The first question is, “what was the medical command and control in Korea?”

The medical command and control in Korea constituted the use of all three services and extended from the heart of Korea, through Japan, Hawaii, and then back to CONUS. Although General MacArthur was in charge of all force under the UN Command, he did not have direct authority over airplanes from the Far East Air Force (FEAF), or direct control of US Naval assets under the command of the US Pacific Fleet (PACFLT). However, both services cooperated in the overall war effort and were instrumental in assisting in the medical plan.

The FEAF was responsible for the air transportation of casualties from Korea to Japan or Hawaii, Japan to Hawaii, and Hawaii to CONUS. Additionally, after the start of the war the Air Force deployed several Sikorsky H-5 helicopters to the Korean peninsula. Their primary mission was to conduct search and rescue for downed pilots. However, the commander of the FEAF also allowed them to conduct medical evacuation as a secondary mission.³⁷ In addition to the Air Force, the Marines and the air section of the Eighth Army Headquarters also used their helicopters, when possible, to evacuate patients.

The US Navy’s contribution to medical support centered around naval hospital ships. Three naval ships provided patient support during the Korean War: USS Consolation, USS Repose, and USS Haven. Of these three ships, the two provided off-shore medical support during

³⁶ Stokesbury, *A Short History of the Korean War*, 110.

³⁷ Darrel Whitcomb, *Call Sign–Dustoff: A History of U.S. Army Aeromedical Evacuation from Conception to Hurricane Katrina* (Fort Detrick, MD: Office of the Surgeon General, 2011), 12.

the Incheon invasion.³⁸ When not providing direct off-shore support for an operation, the hospital ships were used as an additional way to transport patients from Pusan to Japan.

The remainder of this section will focus on the command and control of medical units under Eighth Army. At the outset of hostilities, the Eighth Army Headquarters was the senior US Army headquarters in theater. In early July, 1950, three mobile army surgical hospitals (MASH) and one evacuation hospital were sent to support the beleaguered Army forces. As additional forces continued to arrive, so did medical units. Figure 1 shows the disposition of infantry divisions and non-divisional medical battalion equivalent units supporting the war effort. In addition to the units listed in Figure 1, Eighth Army was the headquarters for two medical depots, two malaria control detachments, three veterinary food inspection detachments, a dental prosthetic detachment, ambulance company, and medical clearing company.

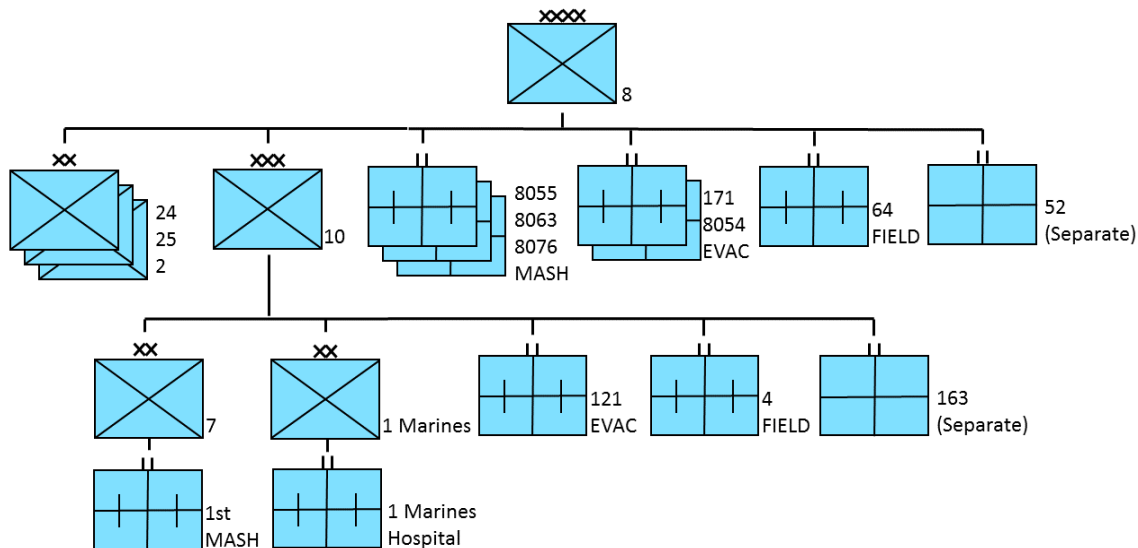


Figure 1. Organizational Chart of Eighth Army Corps, Division, and Non-Divisional Medical Battalion Equivalents in August 1950. Albert E. Cowdrey, *United States Army in the Korean War: The Medics' War*, (Washington DC: Center of Military History United States Army, 1987), 99.

³⁸ Gary Priolo, "Hospital Ship Index," NavSource Naval History (2016), accessed November 9, 2016, <http://www.navsource.org/archives/09/12/12idx.htm>.

All of the medical forces listed were assigned to Eighth Army. The Eighth Army Chief Surgeon, COL Chauncey E. Novell, deployed the 8055th and 8063rd MASHs from Japan to Korea and were operational in Korea by July 9th, 1950.³⁹ Each of these MASHs, based on their Table of Organization and Equipment (TO&E), was designed to support one division by providing immediate surgical or stabilizing care and then further evacuate patients to an evacuation hospital located further to the rear. However, due to a shortage of medical personnel, and only one evacuation hospital in theater, MASHs would surge from their typical 60 bed capacity to 200 beds based on the patients that they were receiving.⁴⁰

When X Corps stood up on August 26th, 1950, the Far East Command's Joint Strategic Plans and Operations Group included a medical section as a part of its TO&E. This section became known as the Office of the Corps Surgeon and served to provide policy, guidance, and direction to the medical units directly assigned to it, including 121st Evacuation Hospital (semimobile), 4th Field Hospital. X Corps also had additional medical units below the battalion level reporting directly to it. These included a medical depot and food inspection detachment. The 163rd Medical Battalion (Separate) also reported to X Corps. It was established as a headquarters detachment only.⁴¹ It served as a headquarters for two medical ambulance companies, a medical clearing company, and a medical collecting company.

The effect of the breakout from the Pusan Perimeter had a multi-part effect on the medical system. Simultaneously, the medical system increased the number of friendly casualties it received, the number of POWs to be treated, while burdening overextended supply lines.⁴²

³⁹ Whitcomb, *Call Sign–Dustoff*, 12.

⁴⁰ Albert E. Cowdrey, *United States Army in the Korean War: The Medics' War* (Washington DC: Center of Military History United States Army, 1987), 89.

⁴¹ Cowdrey, *The Medics' War*, 100.

⁴² *Ibid.*, 105.

Primarily during the advance after the breakout, the divisional medical battalions advanced with their units while the MASHs stayed in place to provide consistent care. With the settling of divisional advances near the 38th parallel prior to the invasion of North Korea, most of the divisional MASHs took the opportunity to jump forward the 240-300 miles to rejoin their units for the advance into North Korea. This shift in basing allowed the medical units to reestablish their operational reach and reduce the risk to forces upon crossing the 38th parallel.

Prior to the invasion of North Korea, in October 1950, the formation of I and IX Corps complicated the medical command and control picture. Prior to their formation, medical requests from the divisional medical battalions went straight to the Eighth Army Headquarters. Eighth Army also controlled the hospitals and medical support functions including aerial medical evacuation (MEDEVAC) requests.⁴³ It would not be until late in January 1951 that COL Novell, Eighth Army Surgeon, passed that authority to the corps surgeons to direct MEDEVAC operations for their corps.⁴⁴

The retreat from the Yalu River also greatly challenged the medical system. After the Chinese counterattack, all corps were in retreat with mounting casualties. However, all vehicles were stocked with equipment and personnel alike. Helicopters were invaluable to the evacuation process as medical facilities soon became overwhelmed.

From the beginning of hostilities to the reoccupation of the 38th parallel, the Eighth Army Surgeon, COL Dovell, wielded significant power. COL Dovell enjoyed a special relationship with the Eighth Army Commander, General Walker. This relationship allowed COL Dovell the ability, single handedly, to reassign and move medical units across the battlefield at

⁴³ Doctrinally, MEDEVAC can be used to refer to medical evacuation via ground or air ambulance. For the remainder of this paper the term “MEDEVAC” will refer to the use of air evacuation by helicopter unless otherwise specified. Cowdrey, *The Medics’ War*, 111.

⁴⁴ Whitcomb, *Call Sign–Dustoff*, 19.

will.⁴⁵ This was considered a boon for the organization since the lack of requisite medical and administrative personnel required the frequenting shifting of personnel and resources to meet demands across the peninsula.

The second question is, “who was responsible for the coordination and movement of medical material?”

As fighting became more intense and forces began to mount on the Korean peninsula, it became clear to the Far East Command that the Eighth Army would not be capable of conducting their warfighting mission and its logistical necessities. On August 25th, 1950, the Far East Command stood up the Japan Logistical Command (JLCOM).⁴⁶ The senior medical officer appointed to this command was Brigadier General Silas B. Hays, the Army Surgeon General’s expert in medical supply operations. The JLCOM served as the requisitioning agency for the Far East Command for supplies from the United States.⁴⁷

After the creation of JLCOM, the primary organization for providing logistics to Eighth Army was 2nd Logistics Command. Subordinate to 2nd Logistics Command was the 3rd Logistics Command and Swedish Red Cross Hospital. The 2nd Logistics Command operated the port, depot, and transportation out of Pusan.⁴⁸ The Swedish Red Cross also operated in Pusan and was augmented by American military medical personnel. The 3rd Logistics Command had a smaller footprint and conducted operations in the Incheon, Seoul, and Pyongyang areas.⁴⁹

⁴⁵ Cowdrey, *The Medics’ War*, 130.

⁴⁶ *Ibid.*, 133.

⁴⁷ James A. Huston, *The Sinews of War: Army Logistics 1775-1953* (Washington, DC: Center of Military History, 1997), 639.

⁴⁸ Billy C. Mossman, *US Army in the Korean War: Ebb and Flow, November 1950-July 1951* (Washington, DC: Center of Military History, 1990), 28.

⁴⁹ *Ibid.*

From a war readiness perspective, the US Army's supply status post World War II was not very good. With the reduction of budgets and drawdowns after the war, only minimal supplies were purchased. Supply acquisition was mainly for food, clothing, and medical supplies.⁵⁰

By August 1950 there was one medical depot in Korea. The 6th Army Medical Depot was assigned to Eighth Army and based primarily in Daegu.⁵¹ When X Corps prepared for the invasion of Incheon, the medical depot sent an advance platoon and blood distribution section.⁵² As the breakout advanced, 2nd Infantry Division left a contingent of medical supply personnel at the railyard at Miryang.⁵³ This supply point continued to push medical supplies forward to medical personnel located with the division headquarters during the advance from the perimeter. Once the 2nd Infantry Division created a line of communication to X Corps forces, the division began to receive medical supplies from the 6th Army Medical Depot's forward elements.

Since there was no projected need for combat operations in Korean, at the outset of the war there was also no logistical support system. The system was developed after hostilities started, and evolved by moving from crisis to crisis.⁵⁴ During the breakout, there were multiple logistical issues that were an impediment to medical care. The first was an exchange of blankets and litters.⁵⁵ Most traumatic patients that receive a wound with subsequent blood loss are prone to shock as the body tries to maintain warmth with less blood flow. In addition, the advancing fall, cooler temperatures, and a lack of heaters in MASH units and field hospitals, blankets were in desperate need. As patients were evacuated rearward, they would keep the blankets and litters on

⁵⁰ James F. Schnabel, *United States Army in the Korean War: Policy and Direction: The First Year* (Washington, DC: Office of the Chief of Military History, 1972), 45.

⁵¹ Terrence J. Gough, *US Army Mobilization and Logistics in the Korean War: A Research Approach* (Washington, DC: Center of Military History, United States Army, 1987), 12.

⁵² Cowdrey, *The Medics War*, 99.

⁵³ *Ibid.*, 100.

⁵⁴ Gough, *US Army Mobilization and Logistics*, 61.

⁵⁵ Cowdrey, *The Medics' War*, 127.

which they were evacuated. However, the amount of material moving rearward was more than was being pushed back forward. Only when the shortage of blankets and litters reached a crisis level would they reach a high enough priority to have space created on flights or trains to the frontlines. During the early months of the war, the logistical system only responded to crisis.⁵⁶

Another issue that the medical logistical system faced was the transport of blood. The first issue was that the blood supply to the front was sporadic and inconsistent. The other issue that was problematic for blood transportation was the rough Korean roads. The issue was that the red blood cells would break apart during the rough transport and make the blood useless to patients upon arrival.⁵⁷

At the outset of hostilities, the medical logistical system relied on stocks of medical supplies that had been left there from World War II. Also, the initial resupply was from similar depots of World War II stocks in the United States. The first of these resupplies did not arrive until October 1st, 1950, over three full months after the fighting started.⁵⁸

When supplies were depleting rapidly, faster than the medical resupply system could handle from the United States, the UN forces employed the local Japanese industry. These substitutes helped but were of variable quality compared to US standards.⁵⁹

Additionally, the Air Force and Navy opened up their medical resources for use by the Army. When vaccines and antibiotics grew desperately short, the Air Force airlifted vaccines from the Port of San Francisco to meet Army requirements.⁶⁰

⁵⁶ Cowdrey, *The Medics' War*, 139.

⁵⁷ *Ibid.*, 127.

⁵⁸ *Ibid.*, 134.

⁵⁹ *Ibid.*, 133.

⁶⁰ *Ibid.*, 134.

Medical material that was requisitioned from Japan was transported by boat, rail and air in both Korea and Japan. Bulk items sent by boat were dispatched from the Yokohama Army Medical Depot and unloaded by the 6th Army Medical Depot at Pusan. Once at Pusan, the primary means of transportation of medical supplies forward was by train.⁶¹

From a medical material standpoint, the largest shortage was in personnel. At the start of the war, the population of doctors in the Far East Command had reached its lowest point in the five years after the occupation from World War II. It was through immediate support from the United States, a freeze on personnel in theater, and the loaning of ninety-eight doctors from the Navy that the Army was able to compensate for its lack of medical personnel.⁶²

The third question is, “how were patients regulated, and who was the controlling agency?”

One of the biggest problems facing the forces in Korea and Japan was an adequate number of medical personnel and hospitals to handle the casualties being taken during the first six months of the war. This meant that often the evacuation system was called upon when forward treatment would not be quick enough.⁶³ Figure 2 shows the five segments of the evacuation route a US soldier would take from the front lines back to CONUS. Depending on the severity of the injury and how fast a soldier healed, medically recovered soldiers could exit the medical evacuation structure and return to duty on the frontlines.

⁶¹ Cowdrey, *The Medics' War*, 136.

⁶² *Ibid.*, 140.

⁶³ *Ibid.*, 132.

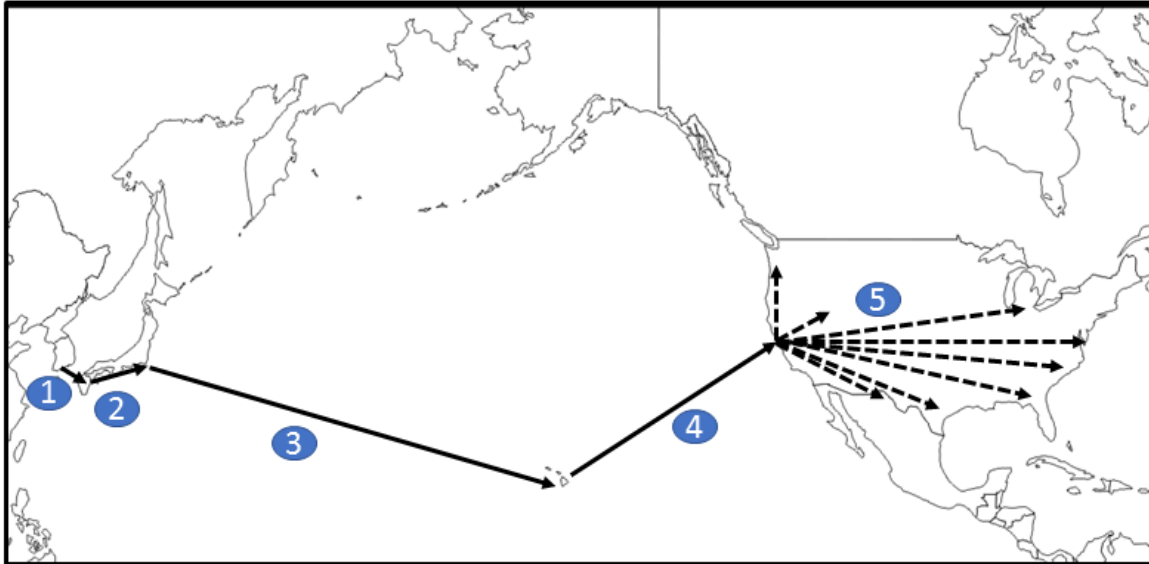


Figure 2. Medical Evacuation in Korea, September 1950. Albert E. Cowdrey, *United States Army in the Korean War: The Medics' War* (Washington, DC: Center of Military History United States Army, 1987), 151.

The evacuation policy at the start of the war was 21 days for hospitals in Korea and 120 days for hospitals in Japan.⁶⁴ If a patient was expected to recuperate in these timeframes, then he/she would exit the medical system and return through personnel channels back to their units. By September 1950, the casualties were starting to overwhelm the system, and the evacuation policy was changed to 60 days, and then briefly to 30 days, returning back to the original 120 days in October 1950.⁶⁵ This cycle was repeated briefly after Chinese intervention, lowering the evacuation policy in Japan to 60 days from the beginning of December 1950 through the middle of January 1951.⁶⁶

The patient's nationality was immaterial to the evacuation process. Partner UN forces, regardless of nationality, would be evacuated throughout the evacuation chain to Japan. The only

⁶⁴ Frank A. Reister, *Battle Casualties and Medical Statistics: U.S. Army Experience in the Korean War* (Washington, DC: The Surgeon General, Department of the Army, 1986), 71.

⁶⁵ Ibid.

⁶⁶ Ibid.

difference was non-US personnel would not be evacuated to CONUS.⁶⁷ From the front lines to the battalion aid station, patients were carried on litters, loaded into an ambulance or anything mobile moving rearward. From the battalion aid station to the regimental collecting station, movement was done by ground vehicle or by helicopter. The same means were used from the regimental clearing station to either a MASH or the division clearing station. Behind the division, a patient could be moved by any means available: ambulance, hospital train, helicopter, or hospital ship, to the evacuation hospital at Pusan or to Japan. Figure 2 shows the five legs that a patient would take while being evacuated from Korea to CONUS. Leg 1 shows the evacuation from the Korean peninsula to Japan.

When patients were evacuated by air to Japan, they fell into a system that had been developed by Medical Service officers to help streamline the flow of casualties into the army hospitals in Japan. Patients would be received by a medical holding company at one of three airfields throughout Japan. Then, the patient was sent to one of three different hospitals for evaluation.⁶⁸ This prevented the receiving hospitals from being overwhelmed with too many patients.

Occasionally, JLCOM would receive patients directly from the front line and MASHs.⁶⁹ This was generally when patients either needed specialty care only available in Japan or because air assets available and injury severity made it likely that patients would be evacuated to Japan anyways. This prevented further stress on other MASH units or the evacuation hospital at Pusan. Regardless of where a patient arrived in Japan, if they needed further evacuation, they would be

⁶⁷ Cowdrey, *The Medics' War*, 132.

⁶⁸ Charles R. Shrader, *United States Army Logistics, 1775-1992, An Anthology* (Washington, DC: Center of Military History, 1997), 585.

⁶⁹ Cowdrey, *The Medics' War*, 133.

prepositioned at a hospital in Tokyo so that they could fly out of Haneda Airport shown by Leg 2 in Figure 2.

Leg 3 of a patient's journey went from Tokyo to Tripler Army Hospital in Hawaii, where the patient's wounds would be checked before the patient was loaded on the next available flight to CONUS. Leg 4 was from Tripler Hospital to Travis Air Force Base in California. Additionally, air transportation played an important role back in the zone of the interior. When patients arrived back in the United States, instead of being shipped on a hospital train to a convalescent facility, they would be flown to hospitals near their respective homes for convalescence (Leg 5).⁷⁰

The mortality rate was greatly reduced due to the combination of aerial evacuation and MASHs that were pushed far forward that causing an improvement in lapsed time before definitive surgical treatment for the patient.⁷¹

The final question to be analyzed is, "What were the theater level HSS plans and policy for Korea?"

General MacArthur's basic plan in case a crisis broke out in the Far East was to defend the Japanese islands.⁷² Operations were to be of an offensive-defensive nature enabling forces outside of Japan to safely retreat to Japan. The Air Force and Navy would go on the tactical offensive and attack enemies in the southwest Pacific. These attacks would create an opportunity to allow outlying forces to withdraw back to Japan and start preparing defensive positions. This plan included Army forces in Korea. The Navy and Air Force would also control lines of communication between units and Japan, and maintain the lines of communication back to the United States.

⁷⁰ Shrader, *United States Army Logistics, 1775-1992*, 585.

⁷¹ Huston, *The Sinews of War*, 646.

⁷² Schnabel, *Policy and Direction: The First Year*, 49.

There were no plans in the Far East Command or the Department of the Army for support of military operations in Korea. When the decision to go into Korea was finally made, it was practically instantaneous, with no detailed analysis or reference to logistical plans.⁷³ Since Japan was the main focus of the Far East Command's plan, the bulk of medical material and personnel were stationed on Japan. The lack of specialized capabilities needed were so severe that on July 12th, 1950, General MacArthur sent to Washington DC a list of over 200 requested technical service units required for combat, including medical, transportation, engineer, chemical, and other service units.⁷⁴

The overall posture of American military forces in 1950 was a house divided. With occupying forces in both the European and Pacific theaters, the primary focus and claim for military forces went to the European Theater.⁷⁵ Originally, after World War II, the United States and its allies believed that Russia would cooperate and help stabilize Europe. However, as the trouble winter of 1946-1947 showed, Russia was more interested in spreading its power and influence over as much of Europe as it could.⁷⁶ These security concerns grew so great that the North Atlantic Treaty Organization (NATO) was formed in 1949.⁷⁷ The emphasis on countering Russian influence in Europe through the newly formed alliance was argued to be as or more important to US strategic interest than the competing priority of post-war occupation in the Pacific. As a result, the US military in Japan got very little of the assets that they needed to start waging war against North Korea.

⁷³ Huston, *Sinews of War*, 649.

⁷⁴ Schnabel, *Policy and Direction: The First Year*, 98.

⁷⁵ *Ibid.*, 41.

⁷⁶ Gideon Rose, *How Wars End* (New York, NY: Simon and Schuster Paperbacks, 2010), 86.

⁷⁷ "North Atlantic Treaty Organization (NATO), 1949", US Department of State Office of the Historian, accessed January 19, 2017, <https://history.state.gov/milestones/1945-1952/nato>.

At the outset of Korea, the medical doctrine was still based on the remaining World War II doctrine.⁷⁸ However, based on lessons learned during World War II, the MASH was conceived as a new idea for medical treatment. COL Percy J. Carroll, working in the primitive and hostile pacific theater, realized that there was a capability gap in providing adequate patient care between the division clearing station and the rear theater hospital.⁷⁹ The idea was to create a mobile unit capable of lifesaving emergency surgery closer to the frontlines of the battlefield. The final creation was the sixty bed, truck mobile hospital known as the MASH. The first combat action where MASHs were used was in the Korean War. MASHs were placed in forward positions just outside enemy artillery range to support each division.⁸⁰

From this analysis, some conclusions can be drawn about the use of operational reach, basing, and risk applied to the quality of HSS in Korea. Starting at the theater level, the decision to have a defensive campaign plan with Japan as the hub decreased the military's operational reach, confined the basing for logistics and support, and increased risk if action was needed elsewhere. These strategic choices significantly hindered the Army's responsiveness in June 1950.

Basing impacted the effectiveness of the medical force due to the age of the World War II stocks, the speed that casualties mounted, and the long lead time for supplies from the United States. The Army compensated for these challenges by utilizing the local economy to make up for shortages. On the Korean peninsula, the starting basing choices were dependent on the Pusan perimeter and the area defended. The initial MASHs sent to the Korean peninsula were changed

⁷⁸ Whitcomb, *Call Sign–Dustoff*, 12.

⁷⁹ John T. Greenwood, "Portable Surgical Hospitals", US Army Medical Department Office of Medical History, accessed January 19, 2017, <http://history.amedd.army.mil/booksdocs/wwii/surgicalhosp/PortableSurgicalHospitals.html>.

⁸⁰ Mossman, *Ebb and Flow*, 33.

from 60 bed facilities to 200 bed facilities in order to close a capability gap generated from not having enough medical capability in theater.

The lack of medical personnel was also a significant risk during the perimeter defense, through the breakout, and then with the retreat to the 38th parallel. This risk was primarily mitigated through increased evacuation of patients to the rear via any means possible. However, this increased evacuation also highlighted additional difficulties with basing and operational reach. For every patient that went backwards, an equal number of litters and blankets were not sent forward. It was not until these supplies reached a level of crisis that this risk to force was mitigated.

This sheds light on what seemed to be the biggest risk to HSS in the Korean War: the lack of an organic medical command and control structure. The medical logistics system was intertwined with the warfighter logistics system. This meant that medical resupply and requisition had to fight for priority with food, bullets, and ammunition. Rarely taking priority until it hindered a unit's ability to move. Also, the addition of the I and IX Corps headquarters created further bureaucracy to the Eighth Army's ability to process medical logistics requisitions and overall responsiveness of the HSS.

Vietnam War Case Study

When the US entered Vietnam, it did not know that the war would become the longest, most unpopular war in its national history to date. The war can be broken down into three phases. The first phase started when US ground combat force entered Vietnam on March 8th, 1965.⁸¹ From then until the spring of 1968, the US conducted a build-up of military forces in Vietnam. The second phase, from 1968 to 1970, the military was at a general plateau of forces and steady state operations against the Vietcong (VC) and North Vietnamese Army (NVA). The final phase, after 1970, the United States spent drawing down forces and trying to exit the war.

The United States started fighting in Vietnam in 1965 to prevent the collapse of South Vietnam.⁸² Initially, the commitment to the theater was a marine brigade, seven additional ground battalions, an air squadron, and B-52 support.⁸³ However, by mid-1965 the military situation showed no improvement, and President Johnson committed a massive infusion of ground forces to prevent the defeat of the Army of the Republic of Vietnam (ARVN).⁸⁴ By the end of 1965 there were over 180,000 US military personnel in Vietnam and no sign that the actions through the air or ground had any significant effect on deterring the NVA or getting them closer to negotiating an end to the fighting.⁸⁵

⁸¹ Dupuy and Dupuy, *The Encyclopedia of Military History*, 1325.

⁸² George Herring, *America's Longest War: The United States and Vietnam 1950-75*, 2nd ed. (New York, NY: Newbery Awards Records, Inc., 1986), 145.

⁸³ Dupuy and Dupuy, *The Encyclopedia of Military History*, 1323.

⁸⁴ Ibid.

⁸⁵ John S. Bowman, *The Vietnam War: An Almanac* (New York, NY: Bison Books Corporation, 1985), 132.

During the build-up years, the US Army saw an increase in military personnel to 280,000 troops in 1966,⁸⁶ and by the end of 1967, over 500,000.⁸⁷ Operation Rolling Thunder, an air campaign against the Ho Ch Minh Trail, started in 1965 and continued through November of 1968. However, even with the massive bombing, the infiltration of the NVA personnel and supplies continued unabated into the South.⁸⁸ United States troops fought from fortified bases and conducted search and destroy missions targeting Communist forces and their bases, as opposed to trying to gain and hold territory.⁸⁹

American strategy changed in 1968, primarily due to the effect of the Tet Offensive. On the ground, it was a tactical defeat for the NVA forces. Back in the United States however, the bold attack changed American perception of the war causing President Johnson to cap troop deployments, stop the bombing of North Vietnam, and ask for negotiations to begin.⁹⁰ With the election of President Nixon, the policy of Vietnamization started and US personnel began to train, educate, and equip a larger South Vietnamese force in order to transition the responsibility of fighting from the United States to the Vietnamese.⁹¹

Anti-war sentiment in the US increased in 1970 after the “invasion” of Cambodia. This was viewed by many Americans as an expansion of the war, not the reduction Nixon promised.⁹² In 1971, to appease critics, President Nixon sped up the timetable of returning troops.⁹³ The stalemate continued for the remainder of the year. When the NVA conducted their Easter

⁸⁶ Bowman, *The Vietnam War: An Almanac*, 158.

⁸⁷ William C. Westmoreland, *A Soldier Reports* (New York, NY: De Capo Press, Inc., 1976), 227-228.

⁸⁸ Bowman, *The Vietnam War: An Almanac*, 158.

⁸⁹ Dupuy and Dupuy, *The Encyclopedia of Military History*, 1323.

⁹⁰ Rose, *How Wars End*, 166.

⁹¹ Bowman, *The Vietnam War: An Almanac*, 246.

⁹² Herring, *America's Longest War*, 237.

⁹³ *Ibid.*, 240.

Offensive in 1972, they were stopped by a combination of ARVN resistance and American tactical air support and strategic bombing.⁹⁴ Additionally, Nixon reached good relations with the Communist powers of Russia and China, which preferred to see the conflict die out rather than increase.⁹⁵ The pressure from the Communist powers to negotiate a peace and their reduction in support caused the North Vietnamese to finally agree to negotiations. Although the peace terms agreed to in the Paris accords were not as good as the United States had hoped, the peace terms did do two things on January 28th, 1973: it ended America's official involvement in the war, and brought American prisoners of war home.⁹⁶ On March 29th, 1973, the last American Soldier left Vietnam.⁹⁷

The first question is, "what was the medical command and control in Vietnam?"

On April 1st, 1965, the United States Army setup the 1st Logistical Command as a centralized logistical command for the increasing conflict in Vietnam.⁹⁸ This command was subdivided into four geographic regions, roughly equivalent to the four corps tactical zones (CTZs). I CTZ was controlled by the United States Marine Corps (USMC). The other three CTZs were controlled by US Army forces. Overall, the 8th Field Hospital was first assigned responsibility as the theater medical command under the 1st Logistical Command. However, the variety of expertise and scope required proved too much for a hospital headquarters, and on May 29th, 1965, the 58th Medical Battalion assumed command and control of all non-divisional medical units in theater, still subordinate to the 1st Logistical Command.⁹⁹

⁹⁴ Rose, *How Wars End*, 173.

⁹⁵ Ibid.

⁹⁶ Westmoreland, *A Soldier Reports*, 394-395.

⁹⁷ Dupuy and Dupuy, *The Encyclopedia of Military History*, 1325.

⁹⁸ Spurgeon Neel, *Vietnam Studies: Medical Support of the U.S. Army in Vietnam 1965-1970* (Washington, DC: Center of Military History, United States Army, 1991), 10.

⁹⁹ Neel, *Vietnam Studies: Medical Support of the US Army*, 11.

This structure persisted until October 25th, 1965, when 43rd Medical Group deployed to Vietnam.¹⁰⁰ The 43rd Medical Group assumed command and control of medical units in II CTZ, non-divisional medical maintenance, laboratory, and helicopter units for all of Vietnam.¹⁰¹ In December of 1965, as the buildup of forces increased, the Surgeon General, Lieutenant General Leonard D. Heaton, and General Westmoreland decided that a medical brigade should be sent to Vietnam.¹⁰²

For the USMC, operations began in March 1965, when the 3rd Marine Division landed to defend Danang airfield.¹⁰³ The parent headquarters, III Marine Amphibious Force (MAF) would be the headquarters responsible for all military forces in I CTZ until it became permanently under Military Assistance Command Vietnam (MACV) control in 1968. The 3rd division was supported medically by their organic 3rd Medical Battalion.¹⁰⁴ This battalion solely supported USMC elements. Once US Army forces began to enter I CTZ, the Army was responsible for providing its own medical care in I CTZ. In addition, the United States Navy provided two hospital ships for use during the Vietnam campaign. The USS *Repose* arrived in the fall of 1965, and the USS *Sanctuary* arrived in April 1967.¹⁰⁵ For the duration of the conflict, these hospital ships provided immense support to the medical mission in Vietnam.

From March 18th, 1966 to August 9th, 1967, the 44th Medical Brigade was subordinate to the 1st Logistical Command. Figure 3, shown below, shows the organizational hierarchy of the 44th Medical Brigade. On August 10th, 1967, the 44th Medical Brigade became a direct reporting

¹⁰⁰ Neel, *Vietnam Studies: Medical Support of the US Army*, 12.

¹⁰¹ *Ibid.*

¹⁰² *Ibid.*

¹⁰³ *Navy Medicine in Vietnam* (Falls Church, VA: Bureau of Medicine and Surgery), 16, accessed January 20, 2017, <http://www.med.navy.mil/bumed/nmhistory/Pages/showcase/Events/NMinVietnam/main.aspx>

¹⁰⁴ *Ibid.*, 16.

¹⁰⁵ *Navy Medicine in Vietnam*, 26.

unit to US Army Vietnam, removing a command and control layer that had previously existed with 1st Logistical Command. This can be seen in Figure 4. This organizational structure persisted until the force drawdowns of 1970.

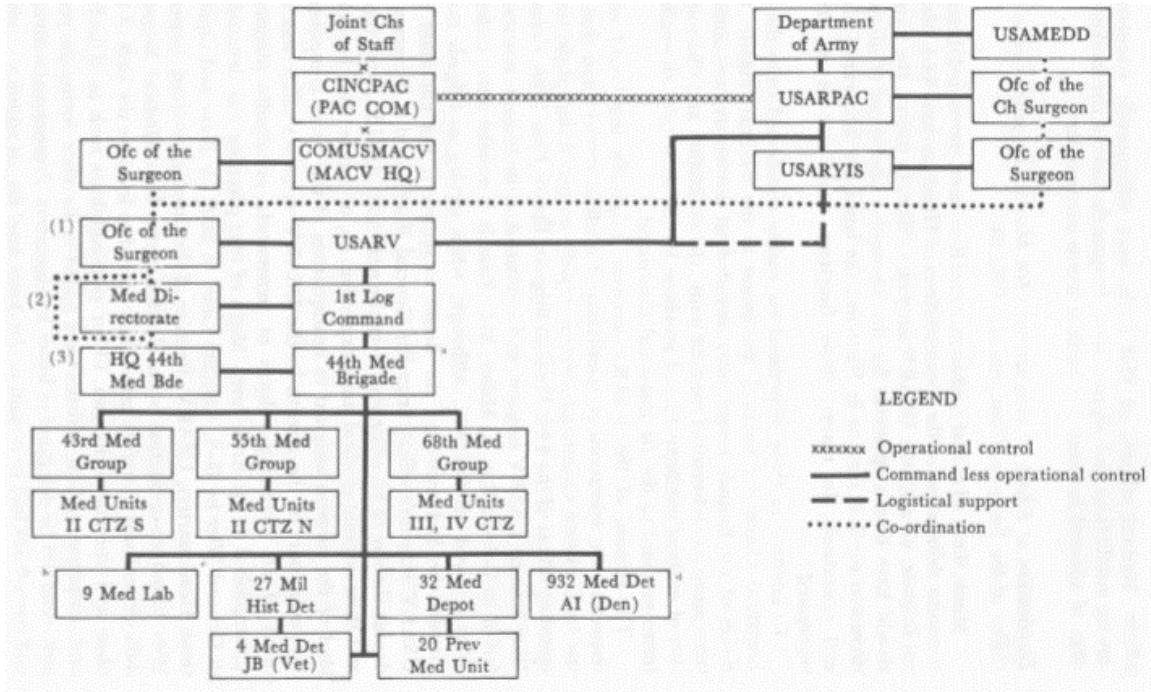


Figure 3. Medical Command and Control from May 1st, 1966 through August 10th, 1967. Spurgeon Neel, *Vietnam Studies: Medical Support of the U.S. Army in Vietnam 1965-1970* (Washington, DC: Center of Military History, United States Army, 1991), 20.

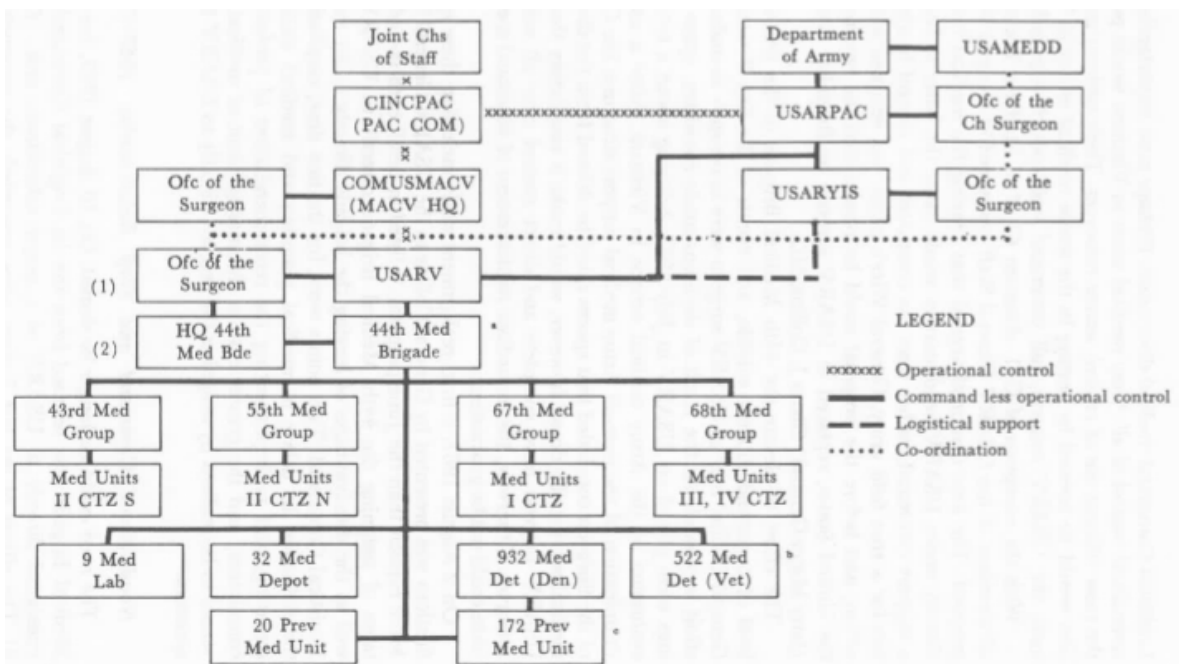


Figure 4. Medical Command and Control from August 10th, 1967 – March 1st, 1970. Spurgeon Neel, *Vietnam Studies: Medical Support of the U.S. Army in Vietnam 1965-1970* (Washington DC: Center of Military History, United States Army, 1991), 24.

The second question is, “who was responsible for the coordination and movement of medical material?”

In 1962 the Department of the Army restructured itself, and supply activities for overseas commands were controlled by supply agencies on a functional basis.¹⁰⁶ This meant that the Inventory Control Point in Hawaii became the authority responsible for distribution of medical material into the Vietnam theater.¹⁰⁷ In 1965, when 8th Field Hospital became the senior medical agency in Vietnam. They became the authority to receive and distribute medical material across the theater for Army units.

This was disadvantageous because the field hospital was neither staffed nor equipped to coordinate and distribute the required quantity of logistics over the entire theater. By mid-1965,

¹⁰⁶ Neel, *Vietnam Studies: Medical Support of the US Army*, 80.

¹⁰⁷ *Ibid.*

the medical supply system was a disaster. Over the next year, the Surgeon General changed the way the medical supply system would operate in theater. By the summer of 1966, the Surgeon General changed the location of the replenishment of supplies from Inventory Control Point Hawaii to the US Army Medical Depot in the Ryuku Islands in Japan.¹⁰⁸ This medical depot, in turn, received supplies directly from the US Army Medical Material Agency.

Another big change to the medical supply system occurred in 1967, with the movement of the medical supply section from the Material Management Agency within US Army Pacific (USARPAC) to under the direction of the USARPAC Chief Surgeon. This meant, for the first time, that the supervision and control of medical supplies at all levels was subordinate to medical command and supervisory channels.

In the I CTZ area of operations under III MAF, the Naval Supply Activity was responsible for the bulk of the logistics resupply for USMC and Army units. However, medical supplies were not one of the shared classes of supply.¹⁰⁹ Based on historical reports, this logistics system was effective and did not duplicate logistical efforts to sustain combat operations.

Overall, the medical material system was effective in Vietnam. Even as hospitals were establishing themselves in new areas of operation in 1965, they were never critically short supplies. While standard avenues of supplies were being setup, there were still several sources and means available to retrieve supplies and put them to use.¹¹⁰

¹⁰⁸ Neel, *Vietnam Studies: Medical Support of the US Army*, 82.

¹⁰⁹ George H. Young, Jr., "Senior Officer Debriefing Report: Logistics, I Corps Tactical Zone," (Da Nang, Vietnam: Plans and Operations, Headquarters, USARV), October 7, 1968.

¹¹⁰ Sterling B. Mutz, "3rd Field Hospital," *USARV Medical Bulletin* 1966, no 1 (January 1966): 7, accessed January 20, 2017, <http://stimson.contentdm.oclc.org/cdm/singleitem/collection/p15290coll4/id/168/rec/1>.

The third question is, “how were patients regulated, and who was the controlling agency?”

Medical regulating in the Vietnam War was broken into four phases by the medical regulators. The first phase involved evacuation from the point of injury to the nearest division level medical facility. This evacuation was regulated by the divisional units.¹¹¹ The unit requesting the MEDEVAC mission, would make a radio call on the MEDEVAC radio frequency, and aircraft would respond in order of patient priority. Once the MEDEVAC aircraft arrived at the scene, the flight medic would evaluate the patients as soon as the aircraft took off. The MEDEVAC aircraft would then notify the controlling medical group of the medical treatment facility it intended to fly to and the injuries of the patients.

If the medical group agreed on the destination hospital selected, then it would concur. Other times, the medical group would not concur and would change the route of flight to a different hospital. This change in flight could be because of specialty care required by a patient, surgical backlog at the first hospital selected, or the area’s overall medical situation.¹¹² If there was a discrepancy, the medical regulator would consult a physician over the radio, and the physician’s decision would be final.¹¹³ This is where, in certain cases, Phase II of the medical regulation overlapped Phase I. Phase II incorporated the evacuation from either the point of injury or the division medical facility to the nearest 44th Medical Brigade controlled medical facility.¹¹⁴

When patients needed to be evacuated across CTZ boundaries or out of theater, the medical groups would submit patient transfer requests to the 44th Medical Brigade who would

¹¹¹ Joe W. Ribotto, Jr., “Medical Regulating in Vietnam,” *USARV Medical Bulletin*, 1968, no. 11 (November 1968): 42, accessed January 20, 2017, <http://stimson.contentdm.oclc.org/cdm/singleitem/collection/p15290coll4/id/420/rec/1>.

¹¹² Neel, *Vietnam Studies: Medical Support of the US Army*, 70.

¹¹³ *Ibid.*, 74.

¹¹⁴ Ribotto, “Medical Regulating in Vietnam,” 42.

process and resource the request. This was Phase III of the medical regulating process. Phase III was defined by the 44th Medical Brigade as the movement of patients for additional definitive care, in-country convalescence, or to evenly redistribute patients during or after a mass casualty situation.¹¹⁵ These patients were generally transported by routinely scheduled Air Force fixed wing missions, but as needed by US Army MEDEVAC.

The goal with each patient was to get them to the appropriate level of care as fast as possible. Once they had received care, there was the additional issue of rehabilitation. This was the primary goal of the 6th Convalescent Center's Reconditioning Battalion. Their mission was to accelerate the physical and psychological recovery of the patients, and restore physical fitness, in order to return soldiers who were ready and able to fight again to their units.¹¹⁶ After opening on 15 May 1966, the 6th Convalescent Center, on average, returned to duty approximately 96 percent of its admissions in a given month.¹¹⁷ This was a force restoration equivalent of one to two battalions a month.

If patients required specialized treatment or needed to convalesce for a period of greater than 30 days, they were evacuated out of Vietnam.¹¹⁸ Out of country evacuation was the final phase, Phase IV, of the medical regulating process. Out of country evacuation requests would first be sent from the medical group's Medical Regulating Officer (MRO) to the 44th Medical Brigade MRO. The 44th Medical Brigade MRO would then contact the Far East Joint MRO to receive destination hospital information for each patient. Then, the 44th Medical Brigade MRO

¹¹⁵ Ribotto, "Medical Regulating in Vietnam," 42.

¹¹⁶ Lindsay E. Ferguson, "Goal of the 6th Convalescent Center's Reconditioning Battalion," *USARV Medical Bulletin* 1967, no 5 (May 1967): 16, accessed January 20, 2017, <http://stimson.contentdm.oclc.org/cdm/singleitem/collection/p15290coll4/id/70/rec/1>.

¹¹⁷ Neel, *Vietnam Studies: Medical Support of the US Army*, 68.

¹¹⁸ Ribotto, "Medical Regulating in Vietnam," 43.

would push the destination information back to the medical groups where they would prepare the medical records and patients for transfer.¹¹⁹

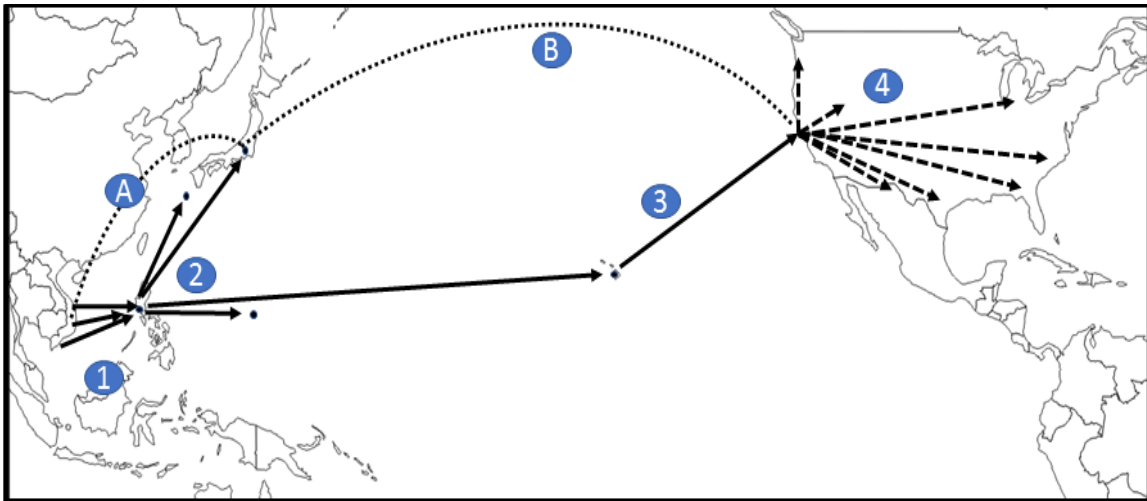


Figure 5. Medical Evacuation in Vietnam, 1965-1970. Joe W. Ribotto, Jr., “Medical Regulating in Vietnam,” *USARV Medical Bulletin*, 1968, no. 11 (November 1968): 42-45.

There were two primary routes a patient could go based on his/her assessed injuries and assigned destination hospital. These routes are shown in Figure 5. At the start of the war, the primary route would be from one of the staging facilities in Vietnam to Clark Air Force Base in the Philippines, Leg 1 in Figure 5. From there, a patient would be evacuated, Leg 2 in Figure 5, to Okinawa, mainland Japan, Guam, or Hawaii.¹²⁰ In the summer of 1966, with the greater utilization of jet technology, patients also started to be evacuated from Vietnam to CONUS with one stop on mainland Japan (Legs A and B, Figure 5, shown with dotted line).¹²¹

The final question to be analyzed is, “What were the theater level HSS plans and policy for each case?”

Given the fixed base nature of operations, casualties were evacuated to robust fixed site hospitals. These hospitals were dispersed on an area basis and, by 1967, there were at least two

¹¹⁹ Ribotto, “Medical Regulating in Vietnam,” 43.

¹²⁰ *Ibid.*, 44.

¹²¹ Neel, *Vietnam Studies: Medical Support of the US Army*, 69.

hospitals per CTZ. Given the large footprint this allowed the hospitals to have, the theater evacuation policy was established at thirty days. This number could fluctuate to as low as fifteen days based on increased casualties and bed status. Patients who were medically evacuated but expected to return to duty within sixty days were sent to recuperation hospitals in Japan.¹²² A Marine evacuated from I CTZ to Japan could expect to spend up to 120 at a US Navy facility.¹²³ In both cases, this was to prevent a significant amount of combat experience having to be evacuated to the continental United States with delayed return to combat.¹²⁴

The policy shift that had the most dramatic effect for the remainder of the war in regards to medical command and control was the arrival of the 44th Medical Brigade and its insistence on controlling all non-divisional medical assets. Prior to its arrival, a single battalion was controlling two hospitals and a dispensary, and all of the MEDEVAC aircraft belonged to aviation battalions not in the medical chain of command.¹²⁵ The resulting successful policies established by the 44th Medical Brigade for the remainder of the Vietnam War were eventually adopted and codified into the revised FM 8-10, *Medical Support Theater of Operations*, published in April 1970.¹²⁶

One of the ways that USARV Surgeon communicated new plans, policies, and lessons learned was through a USARV Medical Bulletin. This bulletin was published on a regular basis from January of 1966 through 1971. Articles in the bulletin were published by staff and medical personnel at all levels to share knowledge, techniques, and administrative information across the

¹²² Neel, *Vietnam Studies: Medical Support of the US Army*, 70.

¹²³ *Navy Medicine in Vietnam*, 18. Each theater evacuation policy for the USMC and US Army were both found in historical publications from their respective service. Additional research did not produce any evidence or discussion why there was a 60-day disparity between them.

¹²⁴ Neel, *Vietnam Studies: Medical Support of the US Army*, 70.

¹²⁵ Harral A. Bigam, Edward R. Leshner and Gerald S. Rose, "Summary of Years Activity," *USARV Bulletin* 1966, no. 6 (June 1966): 31, accessed January 20, 2017, <http://stimson.contentdm.oclc.org/cdm/singleitem/collection/p15290coll4/id/216/rec/2>.

¹²⁶ Whitcomb, *Call Sign – Dustoff*, 51.

command. Although not formally documented in policy during the war, the tenets below outline the principles of patient care and treatment established in FM 8-10.

There were two important tenets to casualty care. First, FM 8-10 stated that health services must be continuous for the best chance of a patient's survival. In order to accomplish this, the medical command and control system needed to reach from the unit level, through USARV, and back to CONUS. It was the only way to ensure a seamless network of medical care. The second tenet was that no soldier would be evacuated farther to the rear than their physical condition warranted or the military situation dictated. This was to ensure the fighting strength of the force. As was discussed earlier, this restored one to two battalions worth of fighting power every month.

In regards to medical evacuation there were three important tenets placed into doctrine. First, higher echelon commands will evacuate patients from the lower echelon units. This tenet allows the tactical unit in combat to focus on completing its mission. Since the division is always worried about supporting its brigades, it logically followed that an organization outside of the division would bring patients further rearwards. Keeping MEDEVAC assets on an area basis gave the medical command the flexibility to evacuate patients to higher levels of care as needed. The third tenet was that the medical means must be as close to the casualties as time/distance factors and the tactical situation permitted. At the peak of MEDEVAC operations in 1968, the average MEDEVAC flight for a patient was 35 minutes.¹²⁷ Based on the number of aircraft and the proximity of hospitals to fighting forces, this meant that a patient was at a hospital receiving definitive treatment within one to two hours after initial injury.¹²⁸

¹²⁷ Neel, *Vietnam Studies: Medical Support of the US Army*, 70.

¹²⁸ *Ibid.*

The last element of Health Service Support, medical logistics, had these tenets added. First, control of medical support resources must rest with the medical staff officer or commander having responsibility for providing health services within the command. This tenet again relates to a unified medical command. When mass casualty situations occur, medical support must be flexible and adaptive to changes in tactical plans or operations that may require redistribution of medical resources. The second tenet for medical logistics is that medical units must have mobility comparable to that of the units that they support. In late 1966 and early 1967 medical units were being sent to Vietnam without the resources or equipment to establish a temporary medical field site in an austere environment.¹²⁹ The final tenet for medical logistics is medical support must conform to the tactical plan in order to provide adequate support at the right place and right time. This tenet is especially important for the buildup of medical material prior to deliberate operations. Although there is no guarantee about the number of casualties that will be taken and amount of medical material used, it is important for a medical staff to estimate in order to plan for sufficient quantities on hand and avoid a shortage crisis.¹³⁰

The deliberate ramp-up of US military forces in Vietnam had a substantial impact on the application of operational risk, basing, and risk to the HSS plan. In conjunction with the implementation of an organic medical command and control structure, HSS in Vietnam was very successful at preserving the fighting force.

From a theater logistics perspective, the consolidation of the medical material pipeline from CONUS to the warfighter reduced the requirements to make medical material requests. Having an accessible, steady flow of medical material increased the operational reach and

¹²⁹ Bigham, Leshner, and Rose, "Summary of Years Activity," 31.

¹³⁰ *Ibid.*, 30.

reduced the risk to force because hospitals and medics were usually equipped with the appropriate material and equipment.

Operational reach was also supported by the quantity and quality of basing available for medical units. With two hospitals in each CTZ and over 100 MEDEVAC aircraft available and dispersed throughout theater.¹³¹ The air component was able to reach patients quickly and easily, usually in thirty-five minutes. This ability to evacuate casualties quickly reduced risk to the patient, as well as the tactical unit protecting the landing zones for aircraft. A detractor to basing was the expectation of permanent or semi-permanent buildings for use by incoming medical personnel. This occasionally delayed the effectiveness of that unit for a period of months before becoming fully operational. These cases were instances of increased risk to force due to a lack of appropriate basing.

Finally, it is important to emphasize the value of the 44th Medical Brigade and its ability to provide comprehensive command and control for casualty evacuation, medical logistics, and patient regulation. The brigade's ability to seamlessly coordinate logistics in the Pacific, coordinate patient transfers to recuperation facilities in the Pacific, manage and direct evacuation in theater based on patient injuries, hospital bed status, and surgical capability and availability significantly increased the operational reach of the HSS system by being flexible and adaptable to optimize the system where it was being underutilized. Between effective management of the system and the sharing of institutional knowledge gained through the USARV Surgeon Bulletin, the 44th Medical Brigade lowered the risk of mission failure due to HSS by ensuring there were always the right resources available, at the right time, in the right locations.

This section discussed the Korean and Vietnam War case studies that provide the foundation for the analysis that will follow in the next section. Each case study started with a

¹³¹ Neel, *Vietnam Studies: Medical Support of the US Army*, 70.

historical overview of the war to provide context for the situation in each case study. Then, each case study was analyzed using structured focus questions as a guide. The answers to these questions will be compared in further detail in the next section.

Findings and Analysis

The purpose of this section is to discuss the findings of the research conducted during the case studies. This section is broken into two parts. The first part is the findings section. This section will discuss and compare the importance of the answer to each of the structured focus questions. The second part of this section is the analysis section. It will analyze whether or not the information from the case study supports the hypotheses suggested earlier.

The first question was, “what was the medical command and control for each conflict?” During the first six months of the Korean War, all of the medical units reported directly to Eighth Army. Although each headquarters had a medical section, there were no medical headquarters in, or assigned to, the theater. The lack of a specific medical headquarters increased the risk to the HSS mission because coordination always required the medical planner to compete with other logistics priorities. In Vietnam, the medical units were assigned first to a logistics command but then shortly thereafter to the 44th Medical Brigade. This arrangement allowed 44th Medical Brigade to be the higher headquarters for all non-divisional medical units, and report directly to US Army Vietnam. This command and control structure reduced risk to the HSS mission because the 44th Medical Brigade was a single headquarters that could coordinate all of the HSS functions simultaneously.

The second question was, “who was responsible for the coordination and movement of medical material?” At the outset in Korea, Eighth Army was responsible for being the warfighting headquarters and logistics headquarters for the entire theater with 2nd Logistics Command a subordinate unit. Although a medical depot arrived in August 1950, to distribute medical supplies to medical units, it was subordinate to the 2nd Logistics Command. During the entire maneuver phase of the Korean War, the medical supply system was intertwined with warfighter logistics. Medical material was seldom the priority of the logistics effort. Consequently, the constant shortage of medical supplies continuously shortened the duration

that HSS could be provided before a crisis occurred. Overall, this system decreased the operational reach of the HSS units. In Vietnam, shortly after the war started, the movement of medical material was streamlined through a medical-only channel. The stream started in the United States, coordinated through the USARPAC surgeon in Hawaii, to the Ryuku Islands in Japan, and then into theater. Then, 44th Medical Brigade coordinated the distribution between the four medical groups supporting the CTZs in theater. This system increased the operational reach of HSS units in Vietnam. By having an appropriate supply of medical material on hand, the HSS system was well-buffered to handle increased workload for extended periods of time and resulted in more combat power from casualties returning to the fight instead of being evacuated from theater.

The third question is, “how were patients regulated, and who was the controlling agency?” In Korea, patients were moved one echelon at a time to the rear, usually through the next higher level collecting station. The patients were regulated by medical personnel in the higher headquarters of where the patient was being evacuated. There was no special network, frequency, or command that controlled patient movement. Patients were moved as quickly as possible, and then controlled and sorted upon arrival at the next station. The rapid advance of UN forces during the breakout from the Pusan Perimeter prevented the hospitals from moving, creating ever increasing evacuation lines to almost 300 miles. This extension of operational reach increased the risk to patients and the HSS mission due the strain placed on the system. Likewise, the lack of mobility during the retreat from the Yalu River to the 38th parallel jeopardized the HSS units during the withdrawal due to the lack of organic mobility.

In Vietnam, patients were regulated through a medical command and control network through individual requests on a dedicated radio frequency. For patients transfers between medical groups or out of country, 44th Medical Brigade headquarters would process the requests and direct the evacuation. The continuity of information and ease of transmitting requests

through a dedicated radio channel allowed the 44th Medical Brigade to use the HSS units basing to exploit the operational reach of the MEDEVAC helicopters. Due to ability to communicate across CTZ boundaries and to different hospitals, the 44th Medical Brigade was able to reduce risk to HSS assets by sending patients to the most appropriate hospital to ensure timely access to the right type of treatment.

The final question to be analyzed is, “what were the theater level HSS plans and policy for Korea or Vietnam?” In Korea, there was no theater level HSS plan. Since the strategic policy was to fight a defensive war in Japan, and not on the Korean peninsula, no war plans had ever been created. Therefore, at the outset of combat operations, no policy or plan existed outlining the requirements or size of medical support infrastructure and personnel that would be needed to support offensive operations in Korea. This lack of planning for action on the Korean peninsula hindered the selection of medical sites for HSS basing, and restricted the reach of HSS units at the outset of hostilities through the lack of a codified HSS plan. This increased the risk to the force as UN forces started taking casualties but did not have an integrated medical command and control structure, appropriate medical personnel available, or a codified medical material system to replenish medical supplies.

In Vietnam, there was a requirement to have an organic medical support organization to ensure the timely movement of patients and material across the battlespace. This was done by having a medical headquarters reporting directly to the senior command headquarters in Vietnam, and aligning medical groups geographically to support each CTZ. This deliberate, dedicated system ensured appropriate placing of fixed facilities and medical evacuation aircraft to ensure military personnel had timely access to the HSS network. This coordination of basing ensured that the medical assets had the operational reach to evacuate patients quickly. Also, due to the policies and best practices shared in the USARV Medical Bulletin, the command element

ensured that HSS personnel always had the up-to-date information on what was happening in theater. Next, this paper will discuss how these findings related to the hypotheses suggested.

This part will discuss the evidence from the case study and whether or not the findings support each of the three hypotheses. Each hypothesis will be looked at individually followed by analysis of whether it was supported or not.

The first hypothesis was that when planners during the Korean War planned healthcare operations to support units in the rapidly changing operating environment, then there was faster evacuation, greater medical care, easier logistical support and better command and control compared to warfare from bases of operation. Based on the findings, this hypothesis is not supported. The medical support in Korea during the first six months of the war was poorly organized and inadequately resourced. First, there was no theater medical plan or policy. Even though the war was unexpected, there was no framework or previous operational plan available to guide the planning effort for this contingency. Second, evacuation was effective in Korea initially, but not fast nor efficient. Although helicopters were eventually authorized, they were not under direct command and control and not always strictly dedicated to medical use. Third, medical care was limited due to the shortage of medical personnel available to provide care in theater. This was compensated for by additional evacuation to the rear when there was not enough capability forward. Lastly, the logistics and medical command and control proved difficult during the first six months of the war. Because medical supplies were intertwined with the regular supply system, medical supplies rarely got priority until their supply level was at a crisis level and likely to dampen the success of future operations. Medical command and control was contingent on the influence and capabilities of individual unit surgeons and their medical element staffs at each level of command. Without a medical person having command authority, action and synchronization was reliant on each individual surgeon's ability to influence commanders on how to best conduct medical operations.

The second hypothesis was that when planners during the Vietnam War planned healthcare operations to support units from fixed bases, then there was faster evacuation, greater medical care, easier logistical support and better command and control, compared to maneuver warfare. The evidence supports the hypothesis. First, because of insecure roads the predominant mode of evacuation was by air. The helicopter evacuation network had a dedicated radio frequency resulting in rapid communication of patient evacuation requests and coordination. This resulted in faster evacuation and increased ability to get patients to higher levels of care. The nature of based operations allowed increased medical care, compared to maneuver warfare, because the hospitals could spend the time to bring in more equipment and have larger facilities that aided in the recuperation of patients. Lastly, having a robust medical command and control organization aided the timing, synchronization, and coordination of patient evacuation and logistics support for all medical operations throughout the theater.

The final hypothesis was when three of the elements of operational art (operational reach, basing, and risk) are applied to HSS in Korea and Vietnam, then medical command and control elements were responsible for the synchronization and coordination of hospital location, patient movement, and medical logistics. This hypothesis is supported with mixed results. When this hypothesis was formulated, there was an assumption that there was forethought into the planning and execution for HSS operations prior to the start of the Korean War. However, analysis from the case study shows that the HSS in Korea was merely trying to survive and do its best. All three elements of operational art were intertwined in the execution of HSS operations in Korea. As units broke out from the Pusan Perimeter and pushed north, they would start to reach the end of their medical capability. However, moving a MASH had its own set of associated risks, taking the facility out of action would limit the organizations ability to handle patients. Lastly, once the decision was made to move the MASH, it would have to know its future location prior to the jump, and know that the location was safe from enemy artillery fire. This was why, generally

speaking, the MASH hospitals only jumped once, to vicinity the 38th parallel, prior to the push into North Korea.

In Vietnam, these elements of operational art were successfully applied by the medical planners to operations in Vietnam. Due to the lack of security on the roads, MEDEVAC aircraft were distributed across the battlefield to ensure evacuation capability across the theater. Hospitals and headquarters were based at large facilities in order to ensure their protection, their sustainment, and coordination between evacuation units and medical headquarters. By conducting medical operations this way, and having a singular medical command and control organization, medical elements were able to reduce risk to their assets as well as increase the chance of survivability of their patients, resulting in the highest preservation possible of the fighting force.

In comparison to modern battlefield HSS, there are some similarities and differences to Korea and Vietnam. First, when the US Army transformed its force into its modular brigade structure, MEDEVAC aircraft were transferred from medical command and control in medical evacuation battalions to control by aviation units in combat aviation brigades. Aside from the change in command and control of MEDEVAC aircraft, the modern HSS structure on the battlefield is arranged very similar to the models used in Vietnam with similar policies for evacuation and medical logistics. A substantial change from the Korea and Vietnam model is the theater evacuation policy. Although the theater evacuation policy is established by the Secretary of Defense, with advisement from the Joint Chiefs of Staff and a recommendation from the combatant commander, current doctrine based on recent deployment experiences discusses a seven-day policy before evacuation to CONUS.¹³² This short policy is related to a doctrinal medical concept of “essential care in theater.”¹³³ This concept means that patients receive the

¹³² Army Techniques Publication (ATP) 4-02.2, *Medical Evacuation* (Washington, DC: Government Printing Office, 2014), 2-1.

¹³³ ATP 4-02.2, *Medical Evacuation*, 2-1.

minimum essential care to treat their wounds and stabilize for transfer in order to evacuate the patient as quickly as possible. This allows for a reduced medical footprint in theater, at the expense of recuperation and redeployment starting from CONUS, and the requirement to reacclimate upon returning to theater. This ultimately results in a reduction of overall combat power due to the time required to redeploy personnel that have healed and can return to duty.

In summary, the findings and analysis have shown that not only were the two wars different in the way that they were fought, but also in the manner that medical units were organized. This analysis resulted in the first hypothesis not supported by the findings. However, the analysis did conclude that the second hypothesis was supported. And finally, that the third hypothesis was supported with mixed results. This section will be followed by the conclusion, which will summarize the contents of this monograph.

Conclusion

This paper analyzed the application of operational art in HSS operations during the Korean and Vietnam Wars. The reason for this study was because the military medical community has grown comfortable with the relative stability of conducting HSS in the counterinsurgency environments of Iraq and Afghanistan. The intent was to determine if there were any methods or lessons that could be drawn from a comparison of HSS operations during the Korean War, where combat units maneuvered during the opening phases of the war, as compared to Vietnam, where using fixed bases of operations was the plan from the outset. Three hypotheses were proposed based on the expected research results.

The first section of this paper was a literature review. The literature review discussed the theoretical framework of operational art. Specifically, this paper looked to see if three of those elements (operational reach, basing, and risk) could be used to analyze operations in the Korean and Vietnam Wars. The next thing the literature review discussed were key concepts associated with healthcare on the battlefield. These topics included the Army Health System, Force Health Protection, and Health Service Support. This paper focused on aspects of HSS, mainly the ideas of medical mission command, medical evacuation, and medical logistics. The final section of the literature review was an analysis of the empirical literature that served as the motivation of this paper. This was an analysis from the Joint Readiness Training Center that US Army units are not adept at the skills of conducting HSS in a maneuver environment.

The methodology section followed the literature review and framed the process for the study. It laid out that the research was going to be conducted using a structured focus comparison of two case studies. Each case study was going to be guided by a set of four research questions. Because of the constraints of this study, the materials for this study were primarily from secondary sources.

Next, the case studies were analyzed chronologically, with the Korean War first and the Vietnam War second. Each case study started with an overview of the military action that formed the background that the research would be set in. Then, each of the four structured focus questions were answered in turn from the research. Finally, each case study finished with a discussion of key points from the research.

Lastly, the paper concluded with the findings and analysis. The most surprising finding was the lack of strategy and planning that went into the Korean War. The national strategy stated that a war would not be fought on the Korean peninsula, but defensively from Japan. Therefore, no operational planning had been prepared for operations on the Korean peninsula. This significantly hampered efforts to come up with a feasible, established medical policy in Korea. Although the HSS units did their best, their performance was not optimum given the constraints to the resources and personnel available.

The findings for the second hypothesis were validated by the preparation for Vietnam and the proficiency of mission command through a medical headquarters. The ability for medical units to control all aspects of the healthcare system increased the speed, efficiency, and effectiveness of healthcare delivery throughout the theater of operations. This integrated medical command and control system ensured that medical assets were appropriately based and distributed throughout the theater to ensure that MEDEVAC aircraft could reach patients in a timely manner, and that the fixed facilities were manned and equipped to provide patient care for extended durations without undue risk.

Ultimately, the key takeaway is how important an integrated, comprehensive medical command and control system is to HSS. Although the finding is contrary to the initial hypothesis, that the Korean War would shed light on a proven system of medical mission command to provide insight into the modern battlefield, it is the contrast of the effectiveness of the medical mission command and control structures that should ultimately be analyzed for the

benefit of future military generations. In order to replicate this critical success in a training environment, there would need to be more training opportunities to exercise divisional units with non-divisional medical units. This type of training opportunity could replicate the logistics and HSS operations needed to increase the proficiency of divisional units and non-divisional medical units interfacing with each other in order to integrate the full spectrum of evacuation and patient care. Additionally, this type of training opportunity could exercise the medical mission command of medical battalions and brigades to integrate their activities into the decisive action environment. Since medical brigades currently do not attend combat training center rotations, their attendance at future rotations could help with appropriate modern-day feedback.

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