

THE UNITED STATES ARMY BATTALION SURGEON:
FRONTLINE REQUIREMENT OR
RELIC OF A BYGONE ERA?

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ABSTRACT

THE UNITED STATES ARMY BATTALION SURGEON: FRONT LINE NECESSITY OR RELIC OF A BYGONE ERA? by Richard Glade Malish, 121 pages.

Without a hospitalization capability, battalion medical care is limited to primary care and combat resuscitation. The U.S. Army has traditionally dispatched doctors to battalions. After the Vietnam War, the Army studied this practice critically. Suffering from doctor shortages, the Army sought to best distribute medical expertise across its spectrum of operations. Medical analysts, equipped with in-depth combat experience, determined that a capabilities mismatch existed at battalion level. Medical school training created providers skilled in the implementation of hospital systems. These skills were not used at the battalion. To address the disparity, the Army centralized its doctor capability in hospitals. The battalion mission was delegated to Army physician assistants--entities created specifically to satisfy front line medical needs. In 1984, the physician returned to the battalion exclusively for deployment. With physician shortages again afflicting the Army secondary to contemporary wars, this thesis recommends that the PA-only model of battalion medical care again be implemented.

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ACRONYMS

AMEDD	Army Medical Department
AMEDDCS	Army Medical Department Center and School
AOC	Area of Concentration
BAS	Battalion Aid Station
BN	Battalion
BS	Battalion Surgeon
CBMM	Core Battalion Medical Mission
DOW	Died of Wounds
FSO	Full Spectrum Operations
GMO	General Medical Officer
KIA	Killed in Action
MMSS	Modular Medical Support System
MSC	Medical Service Corps
MSPR	Medical System Program Review
NCO	Noncommissioned Officer
PA	Physician Assistant
PROFIS	Professional Filler System
TCCC	Tactical Combat Casualty Care

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BACKGROUND AND INTRODUCTION

Our commitment in Southwest Asia offers unique opportunities for the AMEDD to optimize battlefield medical capabilities for the 21st century. Much has changed in Army Medical Department (and Army) doctrine since Desert Shield/Desert Storm and as we enter a fourth year in OIF, a strategic-capabilities mismatch threatens to undermine the ability to effectively deliver essential medical support.

— Colonel Richard W. Thomas,
Ensuring Good Medicine in Bad Places

Overview

Combat, particularly prolonged combat, creates opportunities for systems testing, analysis, and production of new ideas. The ongoing wars in Iraq and Afghanistan provide the U.S. Army with opportunities to identify weaknesses in medical strategy and doctrine. This thesis traces the evolution and evaluates the current practice of forward battlefield resuscitation and care--particularly, the paradigm of dispatching physicians to maneuver battalions. This thesis will ultimately challenge the notion that physicians should be dispatched to forward units as Battalion Surgeons (BS) and will evaluate whether Physician Assistants (PA) are more appropriate for front line medical roles in the modern Army.

Background

The concept of forward medical care has existed since the time of Napoleon. But just as the methods of waging war have evolved since Napoleon, so too has battlefield medicine. Modern medicine has been able to match lethality in weaponry to the point that the mortality rates in Iraq are “the lowest in warfare.”¹

¹Robert E. Suter, “Forward Medical Care and the Military Emergency Medicine Workforce: Too Much Demand and Not Enough Supply?” *Annals of Emergency Medicine* 53, no. 2 (February 2009): 175.

In decades past, the Battalion Surgeon was the embodiment of forward medical care. As the first medically educated resource to lay hands on wounded warriors, the presence of the Battalion Surgeon has been constant through many iterations of medical change. Today, the Battalion Surgeon remains positioned at the presumed gateway of the complex system of medical care delivered to the American Soldier. Based on the Battalion Surgeon's forward position in the field, one might suspect that modernization of the position would be the force behind improved casualty survival.

But no credible study, anecdotal data, or expert opinion suggests that the Battalion Surgeon skill-set has played any role of significance in mortality reduction. One reason that the Battalion Surgeon is rarely considered as a critical factor in recent conflicts is because the working expertise of Battalion Surgeons has been moving away from field medical and combat casualty care and towards other specialties. Almost none of the Army's "Battalion Surgeons" have completed training programs in surgery—the title dates to a time when the terms "doctor" and "surgeon" were interchangeable. Furthermore, modern Battalion Surgeons are not "General Practitioners." Instead, 99 percent of today's Army Battalion Surgeons have specialty careers in non-surgical areas of medicine other than battlefield emergency care.² This model is clearly not a carefully designed creation based on wartime requirements. Rather, it is the result of historical developments in peacetime.

²American Medical Student Association, "HPSP FAQ—Military Medical Training Issues," <http://www.amsa.org/military/FAQs.cfm> (accessed 18 March 2009).

The Decline of the General Medical Officer

Through the 20th Century, Battalion Surgeons were General Practitioners with the basic knowledge and skill-set to practice medicine without specialty. To be eligible for Battalion Surgeon duty, a physician had to successfully complete four years of medical school (undergraduate medical education) and one year of internship in general medicine (graduate medical education). Practice in a medical specialty, if desired, had to await successful completion of an operational tour as a Battalion Surgeon followed by two to six more years of graduate medical education in the field of choice. Because 20th century Battalion Surgeons were staff officers, administrators, supervisors, educators, and soldiers, they were officially called General Medical Officers or GMOs. Young, motivated, and greedy for knowledge, GMOs propelled the field of military medicine forward during peacetime through analysis, research, and innovation. Their treated populations were small and exceedingly healthy. GMOs had no mission to treat dependents and were expected to refer any complicated patients to specialists in military hospitals. Consequently, time could be dedicated to training for war and learning the didactic knowledge of combat medicine. Performance was important because only those that succeeded in their tours as GMOs were offered careers in specialty care.

In 1998, the House Appropriations Committee directed the Department of Defense to “phase out General Medical Officers and replace them . . . with specialists within the next six years.”³ Little data is available on the reasoning behind this decision.

³R. Clare Layton, Medical Corps Desk, Army Medical Department Personnel Proponent Directorate, email message to author, 17 March 2009, email contained attachment, “Memo from John F. Mazzuchi, Ph.D. (Deputy Assistant Secretary [Clinical and Program Policy]) to Deputy Surgeons General of the Army, Navy, and Air Force,” 7 December 1998.

Except for passing licensing exams, there is no further medico-legal requirement beyond the training attained by GMOs for the practice of medicine in the United States. It is notable that the decision was made months after the publication of a Pulitzer prize-winning article on military medicine. The investigative article determined that an extremely small portion (less than one percent) of military physicians was not appropriately licensed due to inability to pass general medical licensing exams.⁴ In a 1999 memo to the Chairman of the Committee on Armed Services, Dr. Sue Baily, the Assistant Secretary of Defense for Health Affairs, critiqued the GMO model as behind the times: “Over the past ten to fifteen years . . . medical education, both graduate and undergraduate, has undergone a dramatic change in this country. Graduating medical students are no longer clinically well rounded generalists.”⁵ Due to increasing trends toward medical specialization, one can logically infer that Dr. Baily believed that the basics of medical care were not being adequately imparted to military medical trainees.

Paradoxically, the government, as a whole, chose not to improve basic Army graduate medical education. Instead, military medicine conformed to trends in civilian medicine and became more specialized. In retrospect, it is not clear how this decision would have improved the pass rate for the physician-licensing exam, which has always been based on general medical knowledge. In any event, the Army and Air Force

⁴Russell Carollo and Jeff Nesmith, “Special Licenses for Doctors,” *Dayton Daily News*, 8 October 1997, <http://www.pulitzer.org/archives/6159> (accessed 11 March 2009).

⁵R. Clare Layton, Medical Corps Desk, Army Medical Department Personnel Proponent Directorate, email message to author, 17 March 2009, email contained attachment, “Memo from Sue Baily, MD (Deputy Assistant Secretary of Defense for Health Affairs) to the Honorable Floyd. D. Spence (Chairman, Committee on Armed Services, House of Representatives),” 14 February 1999.

complied with the directive. The Army immediately began to phase out the roughly 300 GMOs on active duty.⁶ Today, less than one percent of Army physicians are GMOs.⁷

The Navy appealed the decision due to its heavy reliance on shipboard GMOs. Furthermore, the Navy could find no evidence to suggest that military GMOs were not appropriate for their assigned population. According to Dr. Richard A. Nelson, the 2000 Navy Surgeon General, “When I tried to look at the data that said we need to do away with GMOs, I couldn’t find any data that my predecessors in DOD medicine had collected.”⁸ To be sure, medical studies from the time frame validated that GMO-level education was appropriate for the healthy population being served.⁹ Even Dr. Baily described the history of the GMO as “exemplary.”¹⁰ The Navy was not alone in its opposition to termination of the GMO program. Dr. James Zimble, the president of the Uniformed Services University of the Health Sciences (USUHS), suggested that the GMO program be improved rather than discarded.¹¹ Dr. Edward Martin, the 1998

⁶Tom Philpott, “Military to Stop Recruiting Undertrained Physicians,” *The Gazette--Colorado Springs*, 28 February 1998, <http://lumen.cgscarl.com/login?url=http://proquest.umi.com/pqdweb?did=26875028&sid=2&Fmt=3&clientId=5094&RQT=309&VName=PQD/> (accessed 16 March 2009).

⁷American Medical Student Association.

⁸Nancy Tomich, “Navy Surgeon General Concerned about Retention,” *US Medicine* (October 2000), <http://www.usmedicine.com/article.cfm?articleID=77&issueID=17> (accessed 18 March 2009).

⁹*Ibid.*; and M. M. Poggi, G. J. Smith, and R. S. Campbell, “Diagnoses, Demographics, and Utilization of Care as Encountered by Three U.S. Navy General Medical Officers,” *Military Medicine* 165 (September 2000): 672-7.

¹⁰Layton, “Memo from Sue Baily, MD.”

¹¹Phillpot, *Military to Stop Recruiting Undertrained Physicians*.

Assistant Secretary of Defense for Health Affairs, conceded that the decision to phase out GMOs was preemptory to avoid future “tragedy” and was not based on evidence of underperformance.¹² The Navy’s appeal was granted. Today, a significant portion of Navy Physicians remains GMOs. Sixty to 70 percent of graduating interns perform GMO tours on ships or with the Marines.¹³ In contrast, the Army Medical Corps is almost completely specialized.

The Rise of the Army Professional Filler System (PROFIS)

Other events have combined to literally move Army physicians away from combat roles. The conclusion of the Vietnam War and the termination of the draft resulted in physicians leaving the Army in large numbers. In order to manage both its peacetime and wartime missions with dwindling resources, the Army established the Professional Filler System (PROFIS) in 1980.¹⁴ This system assigned most Army physicians to hospitals and clinics for routine duties. With the outbreak of hostilities or humanitarian catastrophe, PROFIS physicians were expeditiously attached to combat units to provide medical coverage until the contingency was quelled. As a result of these events, combat units lost physicians for anything but large-scale training exercises or emergency deployments. Thus, while specialization resulted in a divergence of Battalion

¹²Ibid.

¹³Sandra Basu, “Services Struggle to Recruit Physicians; Devise Incentives,” *US Medicine* (October 2006), <http://www.usmedicine.com/article.cfm?articleID=1404&issueID92> (accessed 13 March 2009).

¹⁴John T. Greenwood and F. Clifton Berry Jr., *Medics at War: Military-Medicine from Colonial Times to the 21st Century* (Annapolis: Association of the United States Army, 2005), 155.

Surgeon medical knowledge from combat and field medicine, PROFIS physically displaced doctors from the units they would serve in war.

Approach

An understanding of the disappearance of General Medical Officers and the subsequent implementation of the PROFIS system represents a starting point from which to evaluate whether filling the Battalion Surgeon position is justifiable in modern warfare. This thesis will address the effects of emerging trends in medical care upon the ongoing utility of the Battalion Surgeon position. Flaws and benefits of the current staffing system will be identified. An alternative staffing model used in response to a very similar wartime situation will be evaluated for applicability to currently identified weaknesses. Finally, ostensible obstacles to enacting solutions will be discussed.

After a description of current doctrine in chapter one, the second chapter of this thesis will examine how advances in medic training, air evacuation, and forward surgery have converged to lessen the importance of the Battalion Aid Station and thus the Battalion Surgeon in combat resuscitation.

A central feature of modern battlefield care in the U.S. Army is the presence of the physician assistant (PA). The PA was introduced in 1973 specifically to address battalion-level primary, field, and combat care. Paralleling trends in civilian medicine, Army PAs have effectively assumed the primary care role of the GMO. The capabilities of the PA will be addressed in the third chapter as they make the additional presence of a PROFIS-provided, specialty-trained physician of questionable value at battalion level.

The fourth chapter will evaluate the repercussions of displacing specialized physician resources to deployed Battalion Aid Stations. In the Iraq and Afghanistan

conflicts, the dislocation of physicians from home-based hospitals has emerged as a significant problem with wide-ranging implications. The lack of garrison specialty providers has stressed the stateside mission to its limits, resulting in reduced quality of care for family members, “Wounded Warriors,” and nondeployed Soldiers. The chapter will reveal that the outlook for the Army Medical Department is bleak because the Army has consistently missed physician recruiting and retention goals during its years at war.

A study of the current utility of the Battalion Surgeon would be incomplete without an examination of the decade between 1973 and 1984. During that time frame, the Battalion Surgeon position was eliminated from the Army inventory and his mission assumed by the Battalion PA. The events leading to that decision will be evaluated in Chapter Five. Research will show that the decision was based on a set of circumstances, born of the Vietnam War, remarkably similar to those encountered today. More importantly, the premise of that decision will be shown to retain evidence-based validity more than thirty years later. With the decision well supported by evidence, its reversal in 1984 deserves scrutiny. Lessons from the Arab-Israeli conflict merged with institutional momentum to update the Army Medical Department. The result was a reinstatement of the Battalion Surgeon. The strengths and weaknesses of both staffing decisions will be measured.

Prior to drawing conclusions and stating recommendations in Chapter Seven, Chapter Six will identify fallacies in thinking that may contribute to observed inertia in policy change. Chief amongst these is the prevailing thought that physicians, based on title alone, are the best available medical entity for front line care. A corresponding belief is that PAs lack expertise in combat casualty care that physicians possess. Contributing to

erroneous beliefs are the “Nothing’s Too Good,” “Just in Case,” and “Physician Territory” attitudes, which mandate, amongst other things, that the “best” medical resources be dispatched to troops no matter what the cost.

A timeline is presented in Figure 1 for reference.

Research Question

This thesis will address the primary research question: Is it appropriate for the Army to continue to deploy physicians in the role of Battalion Surgeon? In order to develop detail that may be used to build a case for an answer, several secondary questions will be evaluated. These include: (1) What is the current doctrinal arrangement of physicians across the battlefield? (2) What specific conditions have emerged that support the evaluation of a new model? (3) What are the exact capabilities of the Army PA and are they sufficient to fulfill the role of the maneuver Battalion Surgeon in the absence of a physician? (4) What unintended consequences result from the application of the current medical staffing model? (5) What lessons does history offer the Army about the resourcing of low-density medical professionals on the battlefield? (6) What practical and theoretical hurdles exist in the present and/or future shift of the current paradigm? Each question will be assigned a chapter as described in the previous section.

Significance

The research contained in this thesis could be used to either validate existing doctrine, or to change doctrine. On one hand, this research may support that the current PROFIS practice is still valid in light of institutional and medical developments over the past three decades. On the other hand, the research may reveal that physicians are better

suites for deployment to higher levels of care (such as brigade combat teams, forward surgical teams, and combat support hospitals) and not far forward.

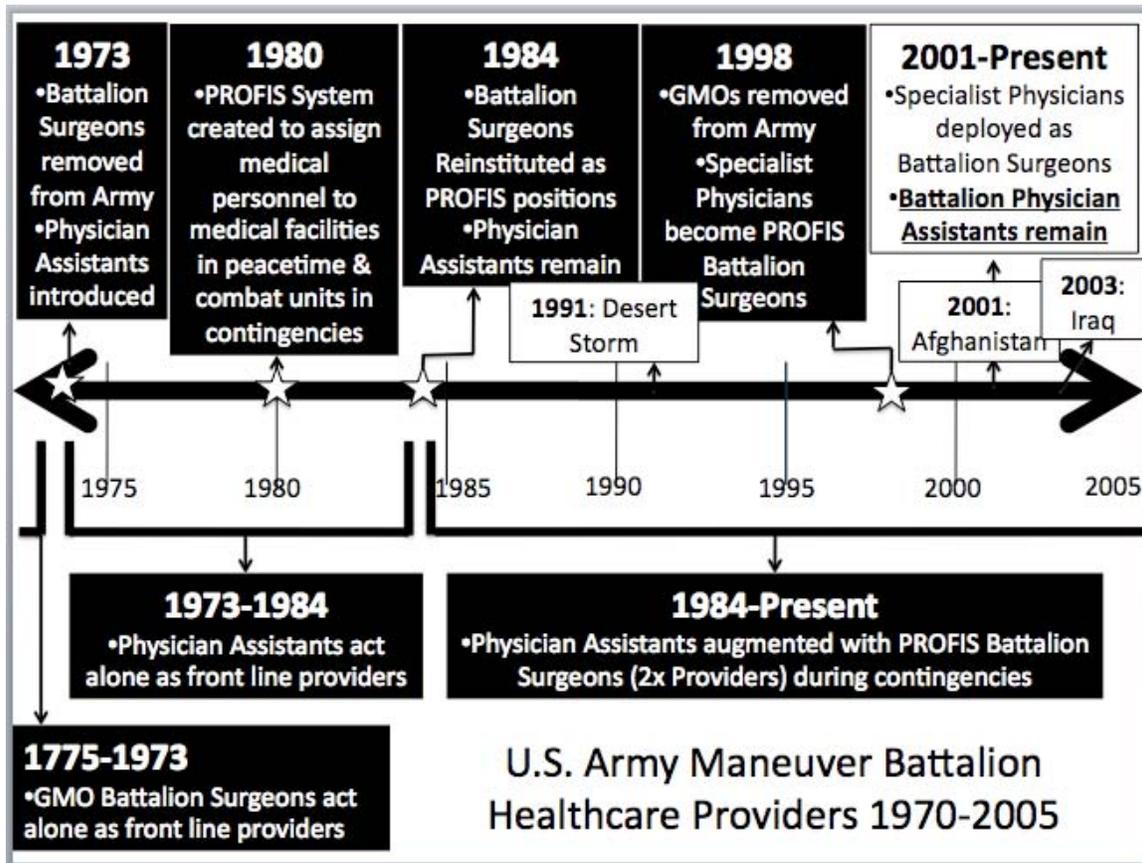


Figure 1. Timeline

Source: Created by author.

Assumptions

An important assumption in this project is that the current PROFIS doctrine of augmenting Battalion PAs with physicians for contingency operations will remain the blueprint for the staffing of deploying medical units for the foreseeable future.

This thesis also assumes that the major difference between battalion-level medical care in wartime and peacetime is the requirement to provide acute treatment of life- and limb-threatening injuries in war, and that this requirement provides the justification for PROFIS physician augmentation.

Definitions

Area of Concentration (AOC): A code (two digits and a letter) that is used to abbreviate military career fields. In this thesis, the AOC is used to distinguish one type of physician from another according to specialty.

Battalion Aid Station (BAS): The medical treatment facility designed to be located closest to the battlefield “front.” Highly mobile, it possesses neither surgical nor hospitalization capability. Members of the battalion medical platoon including the Battalion PA, Battalion Surgeon, and combat medics staff the Battalion Aid Station. The Battalion Aid Station is the focal point for all medical care in the maneuver battalion. Out of it, soldiers receive primary care and, when appropriate, combat resuscitation. Once resuscitated, injured Soldiers are rapidly evacuated to higher levels of care.

Battalion Surgeon (BS): The title used to describe an Army physician assigned or temporarily attached to a battalion of Soldiers. The Battalion Surgeon is almost never a surgeon; surgical specialists at combat support hospitals or forward surgical teams play the true surgeon’s role. The Battalion Surgeon is a physician who has specialized in a nonsurgical specialty. He is temporarily assigned (under the PROFIS system) to provide medical care to a deployed battalion of generally healthy Soldiers. In this role, he augments the permanently assigned Battalion PA. Battalions number anywhere from 300-

800 men. The set of skills needed to perform the Battalion Surgeon mission is classified according to the AOC 62B “Field Surgeon.”

Core Battalion Medical Mission (CBMM): A term, created for this thesis, which is used to summarize the essential medical tasks to be completed at battalion level. Tasks include primary care for a young, healthy population and battlefield resuscitation of injuries incurred in the majority of Full Spectrum Operations (FSO) scenarios.

Forward Surgical Team (FST): Mobile twenty-man teams designed to be placed near high-intensity combat. Forward Surgical Teams have the capability of operating on two patients at one time for up to 72 hours. The intent of Forward Surgical Teams is to perform resuscitative surgery in order to stabilize patients for evacuation to stationary hospitals. Forward Surgical Teams must be collocated with hospitalization (level II) facilities.

General Medical Officer (GMO): The now obsolete term for Army physicians assigned to maneuver units of any size (including battalion). Unlike PROFIS physicians, they were permanently assigned to their units. Historically, these physicians were licensed in the practice of general medicine and did not possess particular medical specialties. However, they were expected to be experts in medical planning, logistics, evacuation, preventive health, triage, and advanced trauma management.

Physician Assistant (PA): “Health professionals who practice medicine as members of a team with their supervising physicians. PAs deliver a broad range of medical and surgical services. . . . As part of their comprehensive responsibilities, PAs conduct physical exams, diagnose and treat illnesses, order and interpret tests, counsel on

preventive health care, assist in surgery, and prescribe medications.”¹⁵ In the Army, PAs are permanently assigned to maneuver battalions. During peacetime, they maintain the health of the battalion and train medics for combat casualty care. In wartime, they perform and supervise combat casualty resuscitation.

Professional Filler System (PROFIS): The term that describes the procedures by which the Army releases physicians and other medical professionals from home-base medical facilities to join (medical and non-medical) units deploying to combat. The PROFIS system acknowledges the fact that combat units do not require comprehensive medical coverage during peacetime training. As a result, it concentrates expertise in dedicated medical facilities until its release is mandated by a military contingency.

Tactical Combat Casualty Care (TCCC): A specialty of medical care designed for first responders (medics) and dedicated to the prevention of death due to penetrating trauma on the battlefield.

Limitations

To date, very little quantitative data is available. Quantitative data would add precision to this study. In its current state, the thesis is conceptual. It addresses ideas and not the practicalities of implementation of change. The study is limited by the mid-level point of view of the author who admittedly has limited visibility on large-scale Army Medical Department strategy. For example, a strategy with a twenty-year horizon may exist to outsource all home front dependent care. Or, the Army Medical Department

¹⁵American Academy of Physician Assistants, “About Physician Assistants,” <http://www.aapa.org/about-pas> (accessed 12 October 2009).

budget, staff composition, or even existence may depend on variables such as physician deployment for justification.

Delimitations

This study is focused specifically on care at maneuver battalion level. No effort is made to address the assignment of PROFIS physicians to Combat Support Hospitals or specialized medical units such as Forward Surgical Teams. This study does not question the appropriateness of physicians assigned to brigade level (level II). Brigade physicians are critical to oversee Battalion PAs, attend to hospitalized patients, and (if necessary) hold patients prior to further evacuation.

The study is focused only on the conventional Army. The applicability of its findings to other services and Special Operations Forces must await further analysis.

The study is focused on the medical tasks that justify wartime PROFIS physician augmentation to battalions, namely urgent battlefield resuscitation and non-hospitalization trauma management. The thesis does not question the justification of the peacetime Battalion Aid Station staffing model (the PA) or its ability to perform non-urgent medical missions in war. For example, the important task of identifying which minimally wounded patients can be returned to duty is not examined. Routine (disease and non battle injury) care is likewise not addressed. Because the PA is granted responsibility for these missions in peace, it is assumed that his expertise transfers to similar missions in war. Humanitarian primary care is not currently published as a core Army Medical Department mission.¹⁶ As such, it is not addressed in this thesis.

¹⁶U.S. Army Medical Department, "Army Medicine Mission Statement," <http://www.armymedicine.army.mil/about/mission.html> (accessed 2 August 2009).

This study applies to combat scenarios ranging across Full Spectrum Operations (offensive, defensive, stability, and civil support operations). In other words, it is applicable to the Core Battalion Battlefield Mission (CBBM). However, there are limits to the applicability of this material. Just as an Army maneuver element may receive augmented firepower, communications, intelligence, or logistics support for high-risk, high-intensity offensive operations, so too should medical coverage be tailored according to mission requirements.

CHAPTER 1

CURRENT DOCTRINE

Before launching into to a critical analysis of the current state of battlefield care, it is important to fully understand its current state. Consequently, this chapter will describe the modern array of medical care across the battlefield. It will then provide additional detail about doctrine specifically at the battalion level. Finally, updated PROFIS material will be useful to illustrate the types of physicians being deployed to maneuver battalions.

The medical treatment plan for the modern conventional battlefield has five numbered levels of care through which injured patients flow. The levels are traditionally arrayed linearly along the battlefield with lower levels closer to the front lines and higher levels in the rear support areas. Higher levels of care contain additional resources. Each level can perform the care of lower levels on an area basis. The focus of this thesis is the care provided by levels I, II, and III--those closest to the front lines.

The goal of level I care is to perform immediate lifesaving measures to enable the patient to be evacuated to a level capable of “definitive” care.¹⁷ Level I care is theoretically available ubiquitously. At the very least, it is present in wide bands across the forward edge of the battlefield because it includes the capabilities embodied in combat medics, combat lifesavers, and soldiers themselves (self- and buddy-aid). In general, one combat lifesaver is available per maneuver squad and one combat medic is present for every combat platoon. Also included in level I is the Battalion Aid Station

¹⁷Definitive care typically requires corrective, often surgical, treatment.

(BAS). According to traditional doctrine, the BAS, being closest to the front, is the first medical “facility” encountered by wounded Soldiers. Interestingly, as a level I facility, the BAS has no different mission than that of the combat medic. The facility is, however, equipped with more resources: in addition to at least seven combat medics, the BAS houses the Battalion Physician Assistant and a Medical Service Corps (MSC) officer. The MSC officer performs administrative, logistics, and command and control roles. A physician with a skill set captured in the broad 62B, “Field Surgeon” career area of concentration (AOC)¹⁸ is also intermittently assigned to the BAS. His official title is, of course, Battalion Surgeon.

The BAS is designed to be mobile and can perform its functions out of the back of a vehicle (“tailgate medicine”). Ideally the BAS is located in a hard structure or tent. An important feature of the BAS is that it cannot hold patients. According to FM 4-02.4, “Patient holding and food service is not available at the BAS. Therefore, only procedures necessary to preserve life or limb, or enable a patient to be moved safely, are performed at the BAS.”¹⁹ This fact is critical to the main thrust of this thesis. Since patients are not to be held at the BAS, it is best thought of as a “resuscitation stop.” Because of the BAS’s very limited mission, it is not burdened with diagnostic or higher level resuscitative resources. For example, the BAS contains no blood bank, x-ray facilities, nursing staff, or laboratory. For organizational purposes, the medical personnel assigned to the battalion; that is, the aid station staff, the dispersed front-line combat medics, and the battalion

¹⁸A description of the medical training encompassed in the 62B AOC is available on page 23 under the subheading “PROFIS Physicians.”

¹⁹Department of the Army, Field Manual (FM) 4-02.4, *Medical Platoon Leader’s Handbook* (Washington, DC: Government Printing Office, 2001), 2-29.

ambulance teams are grouped together in an entity known as a medical platoon.

Appendix A demonstrates the medical platoon organizational structure.

Once patients are stabilized for transport, they are rapidly evacuated from Level I to level II. Doctrinally, this represents transfer from battalion to brigade. The resources available at level II should be thought of as a miniature mobile hospital. Staffing is roughly two times the strength of the BAS. Key features include an x-ray machine, a laboratory, a small blood bank, dental support, physical therapy, a pharmacy, combat stress control assets, and preventive medicine resources.²⁰ Apart from diagnostic resources, the Level II facility is distinguishable from the BAS by its mission to hospitalize patients. Between 20 and 40 patient beds are present.²¹ In addition to its clinical mission, the level II facility resupplies forward BASs with medical supplies, equipment, and personnel. While staffing varies, typically two 62B “Field Surgeon” physicians, two PAs, a nurse, a dentist, and 20-40 medics staff the level II facility. Because of its ability to manage hospitalized patients, the Level II facility can be augmented, by doctrine, with small (two operating-table) Forward Surgical Teams (FSTs) during offensive and other high-threat situations.

The Level II or brigade level of care is the first that is permanently manned with a physician. The Brigade Surgeon has no peacetime PROFIS clinic or hospital responsibility. He is charged with supervising the Battalion PAs for all non-contingency, non-deployment care.

²⁰Department of the Army, Field Manual (FM) 4-02, *Force Health Protection in a Global Environment* (Washington, DC: Government Printing Office, 2003), 2-6.

²¹FM 4-02.4, 2-29.

Combat Support Hospitals (CSHs) represent the care available at the level III echelon. CSHs, by doctrine, are 248 bed hospitals that are authorized 255 personnel. CSHs are distinguishable from lower levels of care by their complete range of specialty services, robust surgical capability, and ability to manage severely wounded patients for prolonged periods. Unlike Level I and II facilities, CSH PROFIS positions are not uniformly filled by selection of physicians carrying the generic 62B “Field Surgeon” AOC.²² Instead, specific AOC identifiers are used to requisition specialized PROFIS personnel. This action ensures an appropriate “mix” of physicians to staff the varying departments of the hospital. At endstate, a range of complementary physicians and services exist at the CSH. As an example, representatives from emergency medicine, internal medicine, radiology, and surgery interact to ensure comprehensive care. The surgical capability of the CSH deserves mention. In “full-up” configuration, each CSH has eight operating room tables. Advanced diagnostic technology to include computed tomography scanning machines complement surgical services. Finally, as many as 48 intensive care beds are available in which severely wounded patients can receive continuous management between surgeries or prior to evacuation to specialty-care hospitals in Germany or the United States.

Evacuation Doctrine

The levels of care as described above were designed for a contiguous battlefield of the type seen in World War II. In that model, medical evacuation was always by ground ambulance and channelized from level I to sequentially higher levels of care.

²²A description of the medical training encompassed in the 62B AOC is available on page 23 under the subheading “PROFIS Physicians.”

Entry into the system almost always occurred through the BAS due to its forward location. Figure 2 demonstrates this doctrinal model and its prescribed ground evacuation routes.

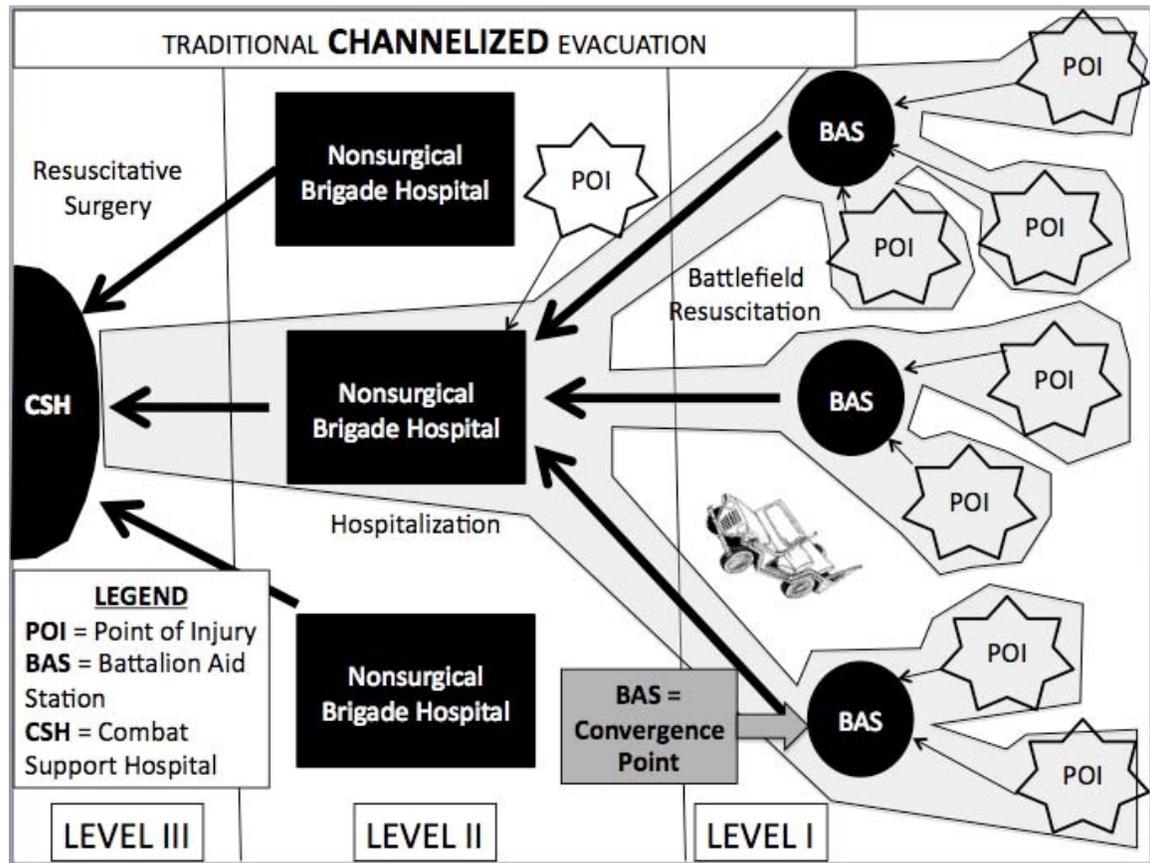


Figure 2. Traditional Channelized Evacuation

Source: Created by author.

As will be shown, the maturation of the air ambulance capability in Vietnam introduced flexibility into the blueprint of evacuation. Up-to-date medical evacuation doctrine now accepts that sequential evacuation is not always appropriate:

. . . in many situations, such as a noncontiguous battlefield, the array of medical resources across the battlefield, the availability of medical evacuation resources,

and the number of patients being evacuated may facilitate procedures that permit bypassing [levels] of care in order to ensure the timely treatment and care of casualties.²³

With the Army Medical Department now accepting Air ambulance as the “primary and preferred method of evacuation,”²⁴ it is the exception rather than the rule for evacuation to proceed sequentially.

Battalion Aid Station Staffing

The duties of the providers at the BAS are covered in FM 4-02.4, *Medical Platoon Leaders’ Handbook*. Not surprisingly, duties include as much as can possibly be done with limited resources. Because clinical equipment is so restricted, duty descriptions tend to be heavily weighted toward administrative tasks. In fact, in the eleven tasks assigned to the Battalion Surgeon, only the following describes his clinical role:

“examining, diagnosing, treating, and prescribing courses of action, to include [Advanced Trauma Management].”²⁵ Conversely, four Battalion Surgeon tasks directly use the word “training” to describe his mission. Apart from fewer administrative tasks, the duty description of the PA is virtually identical to that of the Battalion Surgeon. Also of note is the statement, “The PA assumes the duties of the battalion surgeon/medical platoon leader in his absence.”²⁶ What is not stated in this regulation is that, under PROFIS, the

²³Department of the Army, Field Manual (FM) 4-02.2, *Medical Evacuation* (Washington, DC: Government Printing Office, May 2007), 1-5.

²⁴MAJ Stephen W. Smith, “Branch Day-Army Health Service Support” (Lecture, CGSC classroom, Fort Leavenworth, KS, 29 January 2009).

²⁵FM 4-02.4, D-3.

²⁶*Ibid.*, D-4.

condition of “Battalion Surgeon absence” is the norm in garrison, leaving the PA in charge for the vast majority of the time. This omission is significant because it fails to acknowledge that the PA role is habitual while that of the Battalion Surgeon is transient. Also left unstated is the requisite high degree of overlap between the two positions. Field Manual 4-02, *Force Health Protection in a Global Environment*, provides a nonspecific explanation of the PROFIS arrangement:

In most tables of organization of equipment (TOE) units, when the unit is not deployed on an operation or exercise, the unit is staffed with administrative personnel and only limited clinical resources. When the unit is mobilized, the professional staff designated under the Professional Filler System (PROFIS) is notified of the mobilization and is directed to report to the unit. The administrative staff that maintains the unit’s readiness posture when the unit is not deployed are the individuals who have worked on a daily basis with supported maneuver units and commands.²⁷

Doctrine concerning medical coverage of the Army’s current interim brigade combat team structure is not fully available. Common experience in the active army includes a medical platoon or section (to include a PA) for each infantry battalion, infantry battalion (Stryker), cavalry squadron, combined arms battalion, field artillery battalion and brigade special troops battalion. Each of these battalions is also assigned a PROFIS 62B “Field Surgeon” physician--except the Field Artillery Battalion and the Brigade Special Troops Battalion. These last battalions therefore reflect a little-known but current and accepted use of the PA as the sole provider at battalion level. The organization of the medical platoon for a field artillery battalion is presented in Appendix B.

As may be implied from the use of the term “interim” above, the existing Army structure is a waypoint to a future force. Current doctrine contains hints at what that force

²⁷FM 4-02, 3-2.

will look like. Regarding the future Force XXI/Digitized Division, an additional (second) PA will be assigned to the standard medical platoon organic to all maneuver battalions.

Each provider will lead a small treatment team as described below:

The three treatment teams . . . are the basic medical treatment elements of the BAS. They provide [Level] I medical care and treatment. This includes sick call, EMT [Emergency Medical Treatment], ATM [Advanced Trauma Management], and triage for the management of mass casualty situations. Each treatment team is staffed with a primary care physician or a PA, one health care SGT (E-5 or E-6) and two health care specialists (E-4 or E-3). The physician, PA, and health care personnel are all trained in ATM procedures, commensurate with their positions and skill levels.²⁸

Interestingly, no curriculum entitled “Advanced Trauma Management” exists in the military. It is likely that the credential is satisfied by attending any one of a number of two- to ten- day short courses including the “Advanced Trauma Life Support course;” “Operational and Emergency Skills course;” “Pre-Hospital Trauma Management course;” or “Tactical Combat Casualty Care course.” Notably, the above training doctrine contains a degree of interchangeability or duplication of skills between physician, PA, and combat medic.

PROFIS Physicians

As mentioned, the physicians assigned to PROFIS Battalion Surgeon duty must fit the qualifications encompassed in the AOC 62B, “Field Surgeon.” Fulltime 62B specialists are almost completely nonexistent in the active Army as the identifier practically represents the duties of the abolished GMO. Without any true 62Bs in the Army inventory, “substitute specialties” are used to fill Battalion Surgeon positions, and a tiered substitution hierarchy has been created to fill the positions. In the current

²⁸FM 4-02.4, 2-38.

PROFIS regulation, the following specialties are considered to be appropriate for substitution into the 62B specialty at a 100 percent level: 60P Pediatrician (non-fellowship trained); 61F Internist; 61H Family Physician; 60C Preventative Medicine Officer; 60D Occupational Medicine Officer; 60F Pulmonary Disease Officer; 60G Gastroenterologist; 60H Cardiologist; 60P Pediatrician (fellowship-trained); 60V Neurologist; 61C Endocrinologist; 61D Rheumatologist; 61N Flight Surgeon; 61P Psychiatrist; 62A Emergency Physician; 60J Obstetrician and Gynecologist; 60L Dermatologist; 60M Allergist/Clinical Immunologist; 61B Medical Oncologist/Hematologist; and 61E Clinical Pharmacologist.²⁹

An automated decision-making tool, the “PROFIS Deployment System,” ensures that physicians are equitably assigned to PROFIS requirements. In-depth discussion of the methodology used in the PROFIS Deployment System is beyond the scope of this thesis, but characteristics of the population being deployed are pertinent. Because of the larger percentage of primary care specialists in the Army, primary care specialists fill more individual PROFIS billets than other specialties. Even so, because of the large number of 62B positions to be filled, the net majority of substitutes come from fields of specialty in which the logic of substitution is fairly weak. For example, a PDS list of Battalion Surgeon 62B substitutes for a recent combat rotation contained approximately 51 named physicians.³⁰ Of the total number, more than 50 percent were derived from one

²⁹Headquarters, Department of the Army, Army Regulation (AR) 601-142, *Army Medical Department Professional Filler System* (Washington, DC: Government Printing Office, 2007), 8.

³⁰Jacob Gin, Medical Command Headquarters, e-mail sent to author with spreadsheet attached, 2 April 2009. Data analysis performed by author.

of the following specialties: Pediatrics; Obstetrics/Gynecology; Allergy; Pediatric Cardiology; Dermatology; Gastroenterology; Infectious Disease; Cardiology; Physical Medicine and Rehabilitation; Rheumatology; and Clinical Pharmacology.³¹ The logic for placing such highly specialized physicians into front line combat roles is questionable because it is likely that their training in trauma (and even adult primary care) is remote, peripheral, or both.

Medical Doctrine's Historical Ties

An analysis of medical doctrine is relevant because it contains a degree of stasis linked to its historical development. Current doctrine, for example, does not adequately address the consequences of the relatively new PROFIS system. Likewise, it skirts the depth and importance of the relatively new role of the PA. Finally, it conforms to a channelized and leveled model of evacuation developed to fit a conventional, linearly arrayed battlefield of the type seen in World War II. The published doctrine is not necessarily an accurate and “best fit” set of medical guidelines for modern combat. Without tradition as a blueprint, it is doubtful that one would build the same system using the U.S. Army's current medical resources.

With the picture of current doctrine thus painted, the next chapter will demonstrate how battlefield care has evolved in such a way as to make it appropriate to critically question the ongoing practice of deploying physicians to battalion level.

³¹Ibid.

CHAPTER 2

EMERGING TRENDS

‘[Lieutenant General James B. Peake] understood that we’d already polished the apple as much as we could on combat support hospitals and surgical capability. We’d already started working on the forward surgical team that [moved] surgery a lot closer to the point of injury. . . . He realized that any other impact we were going to make on survivability . . . would have to be . . . at point of injury’ and performed by medics and other troops, not doctors.

— Major General George W. Weightman,
*Military Update: Fewer War Wounds
Suffered in Iraq are Fatal*

The 20th century partitioning of general medical knowledge into smaller and more specialty-based areas of study did not exclude combat care. This chapter will trace the development of the specialty of tactical combat casualty care over the past twenty years. First, it will show how evidence-based ideas and practices have revolutionized battlefield care. Second, it will demonstrate that these evidence-based lessons have fundamentally changed the paradigm of how medical care is dispatched across the battlefield. Third, the chapter will demonstrate the diminished utility of the BAS (and therefore the Battalion Surgeon) in the paradigm as currently practiced. Finally, the chapter will show that planning for future conflict already accepts the new model of combat casualty care and evacuation in which the BAS and Battalion Surgeon play a negligible role. In summary, the chapter will show that emerging medical knowledge, practice, and technology have decreased the need for physicians at battalion level.

The Development of the Tactical Combat Casualty Care (TCCC) Model

A primary source for modern trends dates to the pioneering work of Colonel (Dr.) Ronald F. Bellamy in, and the subsequent development of Tactical Combat Casualty Care

(TCCC). Dr. Bellamy sought to understand how soldiers died of wounds on the modern battlefield by examining theoretical models and historical data from the “Wound Data and Effectiveness in Vietnam” data set.³² In his 1984 article, “The Causes of Death in Conventional Land Warfare: Implications for Combat Casualty Care Research,” Bellamy reached two important conclusions: (1) 90 percent of soldiers killed in action suffered unsurvivable, catastrophic death; only ten percent had injuries that were potentially survivable; and (2) 98 percent of patients reaching medical aid stations alive ultimately survived.³³

The importance of these discoveries has crystallized over time. First, the work distilled and identified from complex injury mechanisms a small subset of injuries and group of patients in which medical action would have a life-saving effect. Second, in these patients, it showed that the pivotal time and place for intervention was on the battlefield immediately after the injury. If patients were resuscitated sufficiently to reach an aid station, survival was highly likely. Finally, Dr. Bellamy reported that the most important intervention in preventing death was hemorrhage control (particularly of extremity wounds). Instead of attempting to approach specific treatment for myriad potential combat injuries, Bellamy suggested that the resuscitation field focus on the few injuries in which intervention would change outcomes.

³²Robert F. Bellamy, “How Shall We Train for Combat Casualty Care?” *Military Medicine* 152 (December 1987): 617-621.

³³Robert F. Bellamy, “The Causes of Death in Conventional Land Warfare: Implications for Combat Casualty Care Research,” *Military Medicine* 149 (February 1984): 55-62.

Building on Bellamy's work, Frank K. Butler, John Haggmann, and George E. Butler published an article in 1996 in which Vietnam data (including the Bellamy data) was used to demonstrate the shortcomings of 1990s military medical training.³⁴ More importantly, the article formulated a guide for care and resuscitation of combat wounded. This guide was significant for several reasons: (1) it concentrated on tourniquets and hemorrhage control which held the most potential for saving lives; (2) it taught simple procedures to treat the second and third most-preventable causes of death-tension pneumothorax (collapsed lung) and airway obstruction; (3) it targeted the early stage of injury where intervention was most critical; (4) it eliminated difficult but low-yield procedures; (5) it produced a concrete recipe of action that was simple and memorable, and most vitally; (6) it acknowledged that it was the medic who played the pivotal role in combat survival.

Without fanfare, the Butler et al. article directed its guidance to medics who, as first on scene, truly stood between life and death. It recommended that medics use practices that in civilian medicine were predominantly the domain of physicians. Included amongst these were the field administration of antibiotics, narcotics, and new-generation resuscitation fluids; and the aggressive use of procedures such as the tourniquet, surgical cricothyroidotomy (creation of an artificial airway through the neck), and needle decompression of pneumothoraces. The Butler, Haggmann, and Butler article was groundbreaking in that it recommended openly and officially that critical trauma

³⁴Frank K. Butler Jr., John Haggmann, and George E. Butler, "Tactical Combat Casualty Care in Special Operations," *Military Medicine* 161 (Supplement 1996): 3-16.

resuscitation knowledge should be passed to medics in retainable lessons to allow them to save the small subset of patients whose lives truly hung in the balance.

The article, entitled, “Tactical Combat Casualty Care in Special Operations,” at the very least highlighted, at an early stage, a trend of increasingly acknowledging the importance of the combat medic in reducing battlefield case fatality rates. Many would argue that it decisively changed battlefield medicine. As with many breakthroughs, the article resonated with such truth that its value was virtually impossible to refute.

Individual Special Operations Forces (SOF) physicians and physician assistants immediately began to incorporate the foundations of Tactical Combat Casualty Care (TCCC) into training programs. Enabled with new medical knowledge, SOF medics proved its worth. An article extolling medical Noncommissioned Officer (NCO)-implemented TCCC in personnel recovery was published in 1999.³⁵ The Navy Special Warfare community rapidly adopted the TCCC philosophy for its medical NCOs.³⁶ The TCCC guidelines achieved even greater degrees of acceptance when they were adopted by the American College of Surgeons and included in that body’s manual for Pre-Hospital Trauma Life Support.³⁷ In its pilot phase, TCCC was acknowledged as a quantum leap. In training and limited real-world missions, medics proved capable of advance trauma management.

³⁵Richard G. Malish, “The Medical Preparation of a Special Forces Company for Pilot Recovery,” *Military Medicine* 164 (December 1999): 881-84.

³⁶Frank K. Butler and John B. Holcomb, “The Tactical Combat Casualty Care Initiative,” *Army Medical Department Journal* PB 8-05-4/5/6 (April/May/June 2005): 33-7.

³⁷*Ibid.*

Because of its initial success, it is not surprising that the TCCC model captured the attention of the Army Medical Department for distribution to conventional units. The 1991 collapse of the Soviet Union ushered in a new era of military threat and with it, new opportunity for the TCCC model to prove its merit. With no super-power enemy facing the U.S. military, the Army Medical Department recognized the need for a new type of conventional medic skilled in the missions of peacekeeping, humanitarian aid, and small-scale conflict. In 1999, to better prepare for this spectrum of threat, the Army Medical Department announced the creation of a new medical occupational specialty--the 91W.³⁸ Largely the vision of the Army Surgeon General, Lieutenant General (retired) James B. Peake, the 91W program was notable for two features: (1) it created a type of professional unseen in the civilian world; a combination emergency medical technician and licensed practical nurse (both 91B [medical specialist] and 91C [practical nurse] positions were subsumed under the new MOS); and (2) it accepted that future conventional combat medics would be operating in small-scale contingency operations previously mundane only to Special Operations Forces. In such small-scale contingency operations, independent skills of the type embraced by TCCC were critical. Accepting Dr. Bellamy's observations that the actions of combat medics were more important than all the care that followed, the 91W program focused on the principle of "far forward care." In his 1999 introduction of the 91W concept, "the Future Medic," Colonel Robert A. De Lorenzo noted that:

The future medic was an extension of the physician or PA, enabling these far forward professionals to extend their care all the way to the point of injury or

³⁸James B. Peake, "91W Healthcare Specialist," *Army Medical Department Journal* PB 8-99-10/11/12 (October/November/December 1999): 1.

illness. The future medic was envisioned to be highly skilled in emergency care and capable of providing care to critical casualties on long evacuation legs.³⁹

In the 91W program, conventional medics armed with resuscitation skills and knowledge previously owned by physicians and PAs were to populate the ranks.

The 91W program was ambitious. Under the new curriculum, medics were trained for 16 weeks rather than ten. Unlike the 91B program, combat medics were required to pass the civilian Emergency Medical Technician qualification test in order to graduate. Training on computerized mannequin-simulators gave students' proficiency in performing resuscitation procedures. Even more importantly, the training provided students with permission to perform tasks that were previously taught only to provide basic familiarity (in order to assist a PA, for example).

Early TCCC by Conventional Units in Combat

The terrorist attacks on the World Trade Center occurred one month before the 91W-training program made its debut. The war in Afghanistan began before the first 91W class had graduated. Even by 2003 and the beginning of hostilities in Iraq, a minority of combat medics had made the transition from 91B/C to 91W. More importantly, the concepts of TCCC had not yet achieved a tipping point in the field. Writing in 2005, Captain Michael Tarpey, a Battalion Surgeon with the 3d Infantry Division, stated that, "there has been very little spread of the use of the TCCC guidelines

³⁹Robert A. De Lorenzo, "91W: Force XXI Combat Medic," *Army Medical Department Journal* PB 8-99-10/11/12 (October/November/December 1999): 2-6.

into conventional units.”⁴⁰ There were, however, pockets of TCCC expertise in the U.S. invading forces.

Tarpey’s unit, Task Force 1-15 Infantry, 3d Infantry Division (TF 1-15 IN), provides an example. In his article, “Tactical Combat Casualty Care in Operation Iraqi Freedom,” Tarpey describes how he, his PA, and his medical NCOs put enlisted battalion medics through a three-month course in TCCC.⁴¹ The course terminated shortly before the unit attacked from Kuwait into Iraq as one of the lead elements of the ground invasion on 21 March 2003. Using scenario-based training techniques identical to those proposed by Special Forces units in 1999, the medics of TF 1-15 IN became so adept at using advanced techniques to treat mock patients that, “recognition and treatment, at times, simply involved muscle memory.”⁴² In the first 25 days of combat, in spite of 32 wounded, TF 1-15 IN experienced no Killed In Action (KIA). Tarpey became one of many apostles of the TCCC message. In his conclusions, he stated that the TCCC guidelines “have proven to be lifesaving and their widespread dissemination should be first priority.”⁴³

Task Force 1-15 IN commendably published its experience. Even so, many other units probably implemented TCCC or some component thereof in preparations for combat. One such unit was the 173d Airborne Brigade that committed to the fight on 26

⁴⁰Michael J. Tarpey, “Tactical Combat Casualty Care in Operation Iraqi Freedom,” *Army Medical Department Journal* PB 8-05-4/5/6 (April/May/June 2005): 38.

⁴¹*Ibid.*, 38-41.

⁴²*Ibid.*, 39.

⁴³*Ibid.*, 41.

March 2003 by parachute assault of the Bashur airfield in northern Iraq. Much like TF 1-15 IN, the 173d trained medics extensively on TCCC prior to deployment. In addition to didactic and scenario-based training, medics were equipped with the appropriate pharmaceuticals and tools to perform TCCC procedures. As a further step to ensure that the TCCC knowledge was always on hand, laminated “smart cards” capable of being carried in one’s hat, pocket, or aid-bag were disseminated.

The PAs and medical NCOs of the 173d played a critical role in the creation of a team of highly-qualified medics. Point of Injury care was so complete that, on several occasions, the expertise of the Brigade Surgeon was made irrelevant. Noting that no further care was needed at the Brigade Aid Station, the Brigade Surgeon was reduced to performing rapid re-evaluations of patients (without intervention) prior to further evacuating them to the nearby Forward Surgical Team. Physician-level aid station care was not necessary because it had already been expertly completed at the place and time it was needed most: on the battlefield in the seconds after injury. There is little doubt that the vision of far forward care created by Peake was, at least partially, realized in Operation Iraqi Freedom. Part traditional medic, part nurse, and indeed, part physician, the 91W represented an excellent medical professional for the task of combat resuscitation.

Wide Dissemination of Tactical Combat Casualty Care

While it is doubtful that the early experiences of TF 1-15 and the 173d were unique, as time went on, it was the unit that was not trained in TCCC that became the exception. Leading the way, the special operations community established a ‘Committee on TCCC’ in 2001. Finding under-penetration of TCCC into the special operations

community, the committee, in 2004, recommended the initiation of the “TCCC Transition Initiative Model (TCCC TIM).”⁴⁴ This program, sponsored by the United States Special Operations Command, provides a three-day crash course on TCCC to special operations units in the six-month window prior to deployment.

By 2005, TCCC in one form or another was finally reaching the conventional force at large. Variations of the TCCC TIM ‘just-in-time’ training curriculum were being used to train conventional units including the 82d Airborne Division, the 10th Mountain Division, the 3d Infantry Division, and the 101st Airborne Division.⁴⁵ These curricula continue to complement the ongoing population of combat maneuver units with 91W-trained medics from the Army Medical Department Center and School.

The paramount front-line role of medics and their sole ability to decide the outcomes of the 10 percent of patients whose lives are at risk has been recognized both by the Army and civilian industry. Cutting-edge medical innovations, such as the hemostatic dressing and the one-handed tourniquet, have been designed exclusively for the combat medic. Furthermore, to broaden the blanket of protection beyond combat medics, the Army started, in 2007, to train all Soldiers entering basic combat training in the skills of combat lifesaving.⁴⁶

While medics have always played an important role in forward care, TCCC has rearranged the Level I model. What was once a “hub and spoke” design with the battalion

⁴⁴Butler and Holcomb, *The Tactical Combat Casualty Care Initiative*, 34.

⁴⁵*Ibid.*, 36.

⁴⁶Mike A. Glasch, “All New Soldiers to Become Combat-Lifesaver Certified,” Army.mil, <http://www.army.mil/-news/2007/09/24/5012-all-new-soldiers-to-become-combat-lifesaver-certified/> (accessed 28 July 2009).

aid station at its center is now a “blanket” or “umbrella” of protection. Medics interspersed amongst the troops, in many cases, perform all of the combat-resuscitation functions of the BAS. More importantly, they do it immediately when time matters most.

Corollary to the TCCC Model: Forward Surgical Teams

Admittedly even highly trained medics must adopt a “damage control” mentality. TCCC aims to save lives so that surgery can be performed to correct trauma-imparted irregularities of anatomy. Some of these, such as damage to blood vessels, injuries to vital organs, and brain swelling, are much more life threatening than others. Recognizing the time-imposed risks associated with prolonged evacuations of severely wounded patients, the Army has implemented a surgical solution that embraces the TCCC concept of a mobile, forward, and disseminated blanket of care. Building on observations made in Desert Shield/Desert Storm, the Army introduced Forward Surgical Teams (FSTs) in the 1990s. Forward Surgical Teams are 20-man teams in which three general surgeons, an orthopedic surgeon, and an anesthesia provider are the centers of gravity. They are 100 percent mobile and are designed to attach to and support maneuver brigade hospital facilities (level II). Their mission is to provide the surgical work needed to further stabilize TCCC-salvaged patients prior to further (and potentially prolonged) evacuation. Since they are present at brigade level, FSTs are rapidly accessible from the front by both ground and air evacuation. They allow maneuver brigades the freedom to operate far forward of immobile CSHs by reducing the risk of prolonged evacuation times.

Forward Surgical Teams were appropriately assigned to fast-moving maneuver brigades in Iraq and provided wide coverage of the area of operations. An example of appropriate FST use includes the assignment of the 250th Forward Surgical Team to the

173d Airborne Brigade. Because of the planned length of time required to secure the Bashur airfield and open its runway, no evacuation asset would be available to the 173d for a minimum of 24 hours after its combat parachute jump. Accordingly, the 250th Forward Surgical Team jumped onto the drop zone to ensure that a surgical capability was present to bridge the evacuation time gap.

As late as 2006, no fewer than 14 FSTs could be found in Iraq providing proximate care wherever soldiers operated.⁴⁷ As in the case of level I resuscitative care, surgical care has likewise been disseminated to lower levels to “cover” troops like a blanket or umbrella.

Results of Implementation

Lieutenant General Eric B. Schoomaker, the Surgeon General of the Army, stated in 2008 that the survival rates in Iraq and Afghanistan were the highest “in the history of warfare.”⁴⁸ As of June 2007, the ratio of KIA to casualties with severe wounds was 16.1 percent versus 21.1 percent for Vietnam.⁴⁹ This represents a 24 percent relative risk reduction between the wars. While there is wide consensus that the layering of care in the form of TCCC and Forward Surgical Teams has contributed to increased survival rates,

⁴⁷Richard W. Thomas, “Ensuring Good Medicine in Bad Places: Utilization of Forward Surgical Teams on the Battlefield” (Strategy Research Project, U.S. Army War College, 2006), 18.

⁴⁸Eric B. Schoomaker, “One Year after Walter Reed: An Independent Assessment of Care, Support, and Disability Evaluation for Wounded Soldiers,” Testimony in front of the Committee on Oversight and Government and Reform, Subcommittee on National Security and Foreign Affairs (27 February 2008), <http://nationalsecurity.oversight.house.gov/documents/20080227161333.pdf> (accessed 27 May 2009).

⁴⁹Ronald F. Bellamy, “A Note on American Combat Mortality in Iraq,” *Military Medicine* 172 (October 2007): i, 1023.

actual proof of a causal relationship is difficult. Experts attribute success to the combination of body armor and battlefield first aid. The BAS, with its once critical mission diluted by TCCC care forward of it, is rarely mentioned at all.

Effects of Implementing TCCC and Forward Surgical Teams:
Battalion Aid Stations Bypassed

With abundant air ambulance assets and available forward surgical care, evacuation from point of injury to the BAS becomes “lateral” rather than progressive in nature and thus illogical. Evacuation to the BAS provides negligible value in most cases and is potentially harmful in many. Physicians serving in the United States Marines emphasized this point as recently as August of 2009. Briefing Marine Corps Commandant General James Conway, doctors stated that “it’s better to make sure patients who are wounded in battle zones get the best care possible, rather than be taken to the closest facility.”⁵⁰ Specifically, Navy Captain Joseph Rappolo, a trauma surgeon, stated, “Seventy minutes to the right place is better than 50 minutes to the wrong place.”⁵¹ The few circumstances justifying the inclusion of a BAS in the chain of evacuation include unavailability of aircraft and injuries incurred in very close proximity to the BAS. Ideal evacuation includes TCCC-led treatment at point of injury followed by rapid air evacuation directly to a FST/Level II facility or CSH. The practical reality of

⁵⁰Lara Jakes, “Military Docs in Afghanistan Say Sometimes Better Hospital More Crucial than Fast Care,” *Star Tribune*, 25 August 2009, <http://www.startribune.com/nation/54690452.html?elr=KArks:DCiUMeAPc:UiD3aPc:Yyc:aUU> (accessed 27 August 2009).

⁵¹*Ibid.*

current combat casualty care consists of two layered blankets (that of TCCC and FSTs) in which evacuation occurs freely between the two at any point in the coverage. A channelized model involving the BAS as an entry point has not been practiced since before the Vietnam War, as will be shown in later chapters. As a result, the BAS capability remains overlaid on medical evacuation plans but is bypassed in practice.

Future Force Planning and the Battalion Aid Station

If doubt remains about the present and future importance of the BAS in combat resuscitation on the battlefield, one may review the RAND Corporation's manuscript entitled, "Army Medical Department Transformation—Executive Summary of Five Workshops."⁵² The Commanding General of the Army Medical Department Center and School commissioned this study in 1998. It consisted of five workshops conducted between 2002 and 2004. The purpose of the work was to determine what issues a future doctrine of dispersed, rapidly moving, and informationally-integrated forces posed for the Army Medical Department. Of the five scenarios analyzed, three were conducted at the battalion-level. Because the Army Medical Department provided the investigators the envisioned health service support structure of the 2015 future scenario, the study provides insight as to the image the Army Medical Department foresees of itself. Two items are salient to the discussion of the perceived array of medical forces across the future battlefield.

⁵²David E. Johnson, Gary Cecchine, and Jerry M. Sollinger, *Army Medical Department Transformation: Executive Summary of Five Workshops* (Santa Monica: The RAND Corporation, 2006).

First, in all scenarios, air evacuation via Blackhawk helicopter was accepted as the likely norm. That each scenario accepted as fact U.S. air superiority and helicopter freedom of movement demonstrates the continued heartiness of the suppositions upon which the Army Medical Department has planned since Vietnam.

The second revelation of the RAND study is its approach to BASs. The study repeatedly and consistently “plays” battlefield scenarios in which injuries are evacuated from point of injury directly to a supporting FST. An example is the following passage that discusses problems of medical care to dispersed forces:

The dispersion envisioned for the Future Force has important implications. One is that it is unlikely that a combat medic will be nearby when an injury occurs. Thus, the importance of trained combat lifesavers increases, because they are very likely to be the immediate and possibly only source of medical care until the casualty arrives at the FST. . . .”⁵³

Notably absent is evacuation to the BAS, which is “virtually” bypassed without so much as an explanation. Implied is a foregone conclusion that the BAS has little to no place in the future “generic” evacuation schemes that are the foundation for planning.

Remarkably, in the 50 page executive summary of the study of future battlefield medical support to a predominantly battalion-level unit, the BAS is mentioned only once. In doing so, the RAND investigators acknowledge that the Battalion Aid Station has features of a relic:

The teams in [the Army Medical Department Transformation Workshop III] concluded that the battlefield roles of . . . the battalion aid station need to be revisited. That is, they questioned whether . . . the BAS could continue to fulfill [its] traditional [role] effectively. . . .”⁵⁴

⁵³Ibid., 37.

⁵⁴Ibid., 31.

A Changing Role for the Battalion Aid Station

This chapter has argued that modern advances have reduced the relevance of the BAS in urgent combat treatment and evacuation. To suggest that the BAS is no longer relevant, however, is a dangerous oversimplification. The BAS will continue to act as the center of gravity for all medical issues pertaining to the maneuver battalion. It will direct and control medics, ambulances, and medical equipment. It will be the focal point for medic training. Its role in primary care will remain. Finally, it will continue to evaluate, treat, and return to duty non-critically wounded Soldiers, thereby “conserving the fighting force.” The need for a qualified medical provider capability at the BAS is accepted in both combat and peacetime operations. One may, however, question the necessity of continuing to deploy specialty-trained physicians to such resuscitation stops. As has been shown, the following two reasons constitute justification for a fresh evaluation of doctrine: (1) there is exceedingly little opportunity at the BAS to influence trauma-related outcomes if TCCC has been applied at point of injury, and (2) physicians at the BAS are likely to be bypassed in the current trauma evacuation model. Upcoming chapters will demonstrate that physician deployment to such small units deprives the entire army of their specialized expertise. If equipoise exists about the utility of the Battalion Surgeon at battalion level, a thorough evaluation of the capabilities of the BAS in his absence must be undertaken. The next chapter will evaluate the skills and capabilities of the Army PA and compare them with those of the specialty-trained physician.

CHAPTER 3

PHYSICIAN ASSISTANT CAPABILITIES

Most federal PAs provide primary care services and work in positions previously occupied by physicians.

— Roderick S. Hooker, *Federally Employed Physician Assistants*

On the battlefield, no one earns as much respect as the physician assistants assigned to line units to ensure everybody comes home.

— Kelly Kennedy, *Army Short on Physician Assistants*

The Making of the Modern Military Physician Assistant

The skills, use, and acceptance of military physician assistants have advanced at breakneck speed since Vietnam. This chapter will chart this evolution, beginning with a description of the duties and capabilities of the Army PA. Afterwards, it will analyze whether value is added by augmenting the PA with a physician for the Battalion Aid Station wartime mission.

Physician Assistants in the Army

The end of the Vietnam War led to the extinction of the doctor draft. At the same time, physician morale in the ranks reached a low point due to a generalized perception of inappropriate utilization in front line positions in the War. To prepare for the inevitable physician shortage spawned by these factors, the Army Medical Department created, in 1972, an 18-month training program to produce “physician extenders” in the form of physician assistants. In describing the program, the Office of the Surgeon General sketched the PA as a product created with a limited set of skills specifically designed to manage a young healthy population. The following passage describes the intent of the program:

Current plans are to train a total of 400 physician assistants . . . for duty, under the supervision and direction of a physician, in maneuver battalions, troop clinics, and ambulatory care facilities. Specifically, the physicians' assistants will be individuals trained to provide basic medical care to extend the capabilities of the physician by removing from him the burden of routine examinations, tests and evaluations not requiring the physicians' level of expertise.⁵⁵

Since the graduation of the first class in 1973, Army PAs have steadily demonstrated their value in treating routine medical problems. Furthermore, they have acquired a critical role in screening patients for referral to specialized physicians. The depth to which the roots of the PA program have reached is a testimonial to the accuracy of the original vision. Now ubiquitous in the Army, PAs (and other physician extenders) have become the "gate-keepers" of the system and the interface between active duty Soldiers and Army medicine. In exercising their duties, PAs are full physician surrogates for primary care. They have complete and unrestricted access to the medical system. Consequently, they order and interpret laboratory and radiologic studies; prescribe medications and other therapies; counsel and educate; recommend profiles and excusals from duty due to injury and illness; and refer patients to specialists. The only constraint placed upon PAs is that they must work under the supervision of a physician. In the current peacetime model, on-site supervision, however, is not required. The physician assigned to the next higher headquarters (the brigade) supervises PAs working at battalion level. Incidentally, nonphysician offsite care is not controversial and widely

⁵⁵U.S. Department of the Army, U.S. Army Medical Department, Office of the Surgeon General, Historical Unit, *Annual Report--The Surgeon General United States Army* (Washington DC: Government Printing Office, 1972), 100.

accepted by the civilian world. Forty-four out of 50 (88 percent) states have approved off-site supervision of PAs as of 1998.⁵⁶

The military model of PA-led primary care acted as a model for reform in the greater American medical sector, which was seeking to survive its own shortage of physician resources. By 1997, 36.1 percent of civilians seeking outpatient care were seen by nonphysician clinicians in the United States.⁵⁷

To state that Army PAs are technical experts in primary, field, and combat care, however, understates the scope of their practice in the Army. In their discussion of the duties of Army PAs, the Army Medical Department and Office of the Surgeon General do not mention clinical competency until very late in the job description:

Army PAs plan, organize, perform, and supervise troop medical care at Levels I and II (unit and division level); they direct services, teach and train enlisted medics, perform as medical platoon leader or officer-in-charge in designated units. They function as special staff officers to commanders, providing professional advice on medically-related matters pertinent to unit readiness and unit mission. Army PAs participate in the delivery of health care to all categories of eligible beneficiaries; prescribe courses of treatment and medication . . .⁵⁸

In recognition that the PA role extends beyond that of pure clinical expertise, the PA corps was transitioned from warrant to commissioned officership in 1992.

⁵⁶Richard A. Cooper, Tim Henderson, and Craig Dietrich, "Roles of Nonphysician Clinicians as Autonomous Providers of Patient Care," *Journal of the American Medical Association* 280 (September 1998): 795-802.

⁵⁷Benjamin G. Druss et al., "Trends in Care by Nonphysician Clinicians in the United States," *The New England Journal of Medicine* 348 (9 January 2003): 130-7.

⁵⁸U.S. Army Medical Department/Office of the Surgeon General, "Physician Assistants: Description of Duties," <https://amsc.amedd.army.mil/pa/duties.html> (accessed 5 June 2009).

As the lead medical officers for maneuver battalions during peacetime, an important role of the military PA is to train medics for their wartime mission. In his description of his tour in Iraq, a PROFIS Battalion Surgeon acknowledges the magnitude of the schooling responsibility: “The training of medics by the battalion surgeon and PA, together with the medical [noncommissioned officers], is probably the most important job assigned to these professionals.”⁵⁹ This statement recognizes the importance of well-educated medics to populate the “umbrella” construct of battlefield first aid. The author acknowledges the irony that peacetime PROFIS Battalion Surgeons remain localized in specialized clinics and are forced to leave the “most important” combat medicine training mission to the PA. Although not its main thrust, one of the most important observations of the article is that, apart from rare exceptions, PAs, due to their constant presence, assume de facto responsibility for the medical preparedness of maneuver battalions for war.

Physician Assistant involvement in the critical mission of medic training actually extends beyond unit level initiatives. In his description of the proposed training curriculum of the 91W medic program initiated at the Army Medical Department Center and School in 2001, Colonel Robert A. De Lorenzo makes no mention of physician-guided lessons. Instead, he states, “the faculty will gain dozens of PAs, reflecting the important relationship between battalion PAs and unit medics.”⁶⁰ This passage supports

⁵⁹Tarpey, 38.

⁶⁰Robert A. De Lorenzo, “Medic for the Millennium: The U.S. Army 91W Healthcare Specialist,” *Military Medicine* 166 (August 2001): 687.

that PAs have been awarded a significant role in combat medic training at the Army institutional level.

From inception, candidates for the limited number of Army and civilian PA training positions were selected based on proven track records in military medical environments. The first modern PA class graduated from Duke in 1965. They were all former Navy Corpsmen.⁶¹ The next six training programs were all federally funded and sought “medically trained servicemen” as students.⁶² Likewise, the original 1972 Army PA program relied heavily on Special Forces medics. This trend has continued. In 2007, 65 percent of those accepted into the Interservice Physician Assistant Program (IPAP—the offspring of the original Army PA program) were former medics.⁶³ The fact that more than 1000 candidates applied for 95 PA training positions in 2007⁶⁴ provides commentary on the luxury afforded to the military to select the very best for training and the size of the pool for a future pipeline should the program expand. The high quality of the current PA corps is supported by the fact that graduates outscored civilian PAs on licensing exams when last studied in 2004.⁶⁵

⁶¹Roderick S. Hooker, “The Military Physician Assistant,” *Military Medicine* 156 (December 1991): 657.

⁶²*Ibid.*

⁶³Kelly Kennedy, “Army Short on Physician Assistants,” *The Army Times*, http://www.militarytimes.com/news/2008/01/military_physassit_08118w/ (accessed 4 March 2009).

⁶⁴*Ibid.*

⁶⁵John T. Cody et al., “Performance of Military-Trained Physician Assistants on the Physician Assistant National Certification Examination,” *Military Medicine* 169 (January 2004): 34-7.

The key justifications behind the PA program are its value and responsiveness. PAs are trained in about one fourth (two years) of the time of that of a specialty-trained physician (seven to eleven) at a fraction of the cost and resources. Focusing the PA curriculum on basic primary, field, and combat care from start to finish attains this economy. In contrast, physician education begins very broad in scope and progressively narrows as physician-candidates make decisions about their ultimate specialty career choice. The responsiveness of the PA pipeline is evidenced by the fact that the number of PAs in the Army doubled between 2004 and 2006. This rapid increase is attributed directly to the needs imposed by the Wars in Iraq and Afghanistan.⁶⁶

Analyzing the PA concept on a more abstract level, in the PA, the Army created a desired product . . . and that product essentially duplicated the General Medical Officer capability. Ironically, by the time physician-trained GMOs were deemed inadequately trained for the task of primary care, PA-trained ‘GMOs’ had become substantially interwoven into the mission. Apart from losing available physician mentorship, PA duties remained unaffected by the abolition of the physician GMO. Their community roles in primary care, however, filled the vacuum of physician loss. Since 1998, PAs have become the Army’s lead agent for active-duty primary care and combat medic training. With PAs in the active duty Army now numbering approximately 610,⁶⁷ they have effectively doubled the population of GMOs that disappeared in the 1990s.

⁶⁶Roderick S. Hooker, “Federally Employed Physician Assistants,” *Military Medicine* 173 (September 2008): 895.

⁶⁷*Ibid.*

Value Added by Augmenting Front Line Care with Physicians

As stated previously, maneuver battalion PAs are augmented with physicians under the PROFIS system when deployed to war. The logic behind this arrangement must rely on two assumptions: (1) because no additional technology or equipment is dispatched with the physician, his value must be coupled to his knowledge-base and, (2) because the BAS is essentially a resuscitation stop, the possessed superior knowledge and skills must be related to combat resuscitation and first-aid. But these unspoken assumptions raise the question: Why would a clinic or hospital-based physician who spends a small fraction (if any) of his practice in front line resuscitation own superior knowledge to that of a PA whose entire existence, training, and duties revolve around it?

The fact that the Army PA is expressly designed for the battalion-level combat mission is a compelling argument for the proposition that little value is added by dispatching physician specialists forward. The remainder of this chapter will analyze data of interest in comparing the two entities for the Core Battalion Medical Mission.

To begin, there is no scientific data to support the superiority of specialty-trained physicians over PAs for the battalion mission.⁶⁸ A review of the existing literature and current medical doctrine suggests that the Battalion Surgeon and PA are at least interchangeable. Retrospective anecdotal and survey data exists which confirms nothing less than equality. Finally, one head-to-head study of physicians versus medical paraprofessionals in combat medicine is available. This data supports PA superiority for the combat mission. These data will be evaluated in succession below.

⁶⁸Considering the setting, it is quite likely that, apart from certain exceptions (emergency and critical care trained physicians), physicians, as a rule, are *undertrained* in comparison to PAs for combat medicine.

The wars in Iraq and Afghanistan have spurred resurgence in literature on combat medicine. Articles are retrospective and observational in nature. Furthermore, many reflect the bias of their physician authors. This point is important because it would be rare for a professional to state that another was more appropriate for a mission. Even so, the articles provide a source of material from which some idea of the “facts on the ground” can be gleaned. In an extensive literature review, no article was found which suggested that PAs were anything but perfectly suited for the combat mission. More to the point, several articles are available which indicate, at the very least, equality between PA and physician. In his article describing a battalion’s medical coverage of offensive operations in Fallujah, Iraq from the summer of 2003 to the spring of 2004, Battalion Surgeon Scott Earwood and his team created “advanced trauma packages” to cover high risk missions.⁶⁹ Notably, the PA and Battalion Surgeon were used completely interchangeably as leaders of this asset. Elsewhere, an emergency-medicine trained PA was part of a team that mentored other practitioners, including a pediatrician-trained Battalion Surgeon, in trauma management.⁷⁰ There is no doubt that the 173d Airborne Brigade favored its battalion PAs over its surgeons. When that unit parachuted into Iraq in 2003, it left its PROFIS Battalion Surgeons at home and jumped the Battalion PAs to provide immediate medical coverage to the force.

⁶⁹Scott Earwood and David E. Brooks, “The Seven P’s in Battalion Level Combat Health Support in the Military Operations in Urban Terrain Environment: The Fallujah Experience, Summer 2003 to Spring 2004,” *Military Medicine* 171 (April 2006): 273-7.

⁷⁰Robert T. Gerhardt et al., “Out-of-Hospital Combat Casualty Care in the Current War in Iraq,” *Annals of Emergency Medicine* 53 (February 2009): 169-74.

Raw commentary on PA competency is available from a survey, which interestingly, made no attempt to study it. In 2005, Captain John Hughes et al. surveyed every battalion and brigade commander at Fort Hood, Texas.⁷¹ While the survey was created to identify a collective experience about brigade and battalion surgeons, several commanders discussed PAs in the free-text “comments” portion of the study tool. One commander stated that he would put his PA “up against any brigade surgeon any day.”⁷² Another noted key differences between physicians and PAs. In his comments he suggests that physicians “must focus on emergency medicine/trauma management before going to combat.”⁷³ On the other hand, “Troops trusted the PAs more because they were there every day and not just showing up before deploying.”⁷⁴

Survey information is available which more directly compares line officer opinions of physicians versus PAs. In a 1992 survey, Lieutenant Colonel George Shackelford Robinson asked 100 former battalion commanders to rate PAs and physicians in eight categories.⁷⁵ PAs outscored physicians in every single category. Amongst these were leadership, administration, tactical skills, and notably technical (clinical) skills. These findings were used to support campaigns for improved training of

⁷¹John R. Hughes, Michael A. Miller, Warner D. Farr, and Teresa M. Hughes, “Survey of U.S. Army Commanders’ Experiences with Brigade/Battalion Surgeons at Fort Hood, Texas,” *Military Medicine* 171 (March 2006): 240-245.

⁷²*Ibid.*, 244.

⁷³*Ibid.*

⁷⁴*Ibid.*

⁷⁵George Shackelford Robinson, “Army Medical Department Officers in Division Assignments: Prepared to Succeed, or Doomed to Fail” (Military Studies Program Paper, U.S. Army War College, 1992).

physicians. A more optimistic point of view, however, would have been to accept success in the fulfillment of the goals of the original model of the Army PA. If the PA were not functioning completely as envisioned, created, and trained, the result would not have been such.

A rigorously controlled head-to-head trial of PA versus Battalion Surgeon would present very powerful information. If PAs were found to be inferior in quality, this thesis may not be supportable. The Israeli study, “Physician versus Paramedic in the Setting of Ground Forces Operations: Are They Interchangeable?” attempts to provide data on this very issue.⁷⁶ In the following passage, it is clear that the authors identify identical issues in the Israeli Army to that discussed here, albeit related to a different paradigm.

The trend toward subspecialization in medicine causes the physician to become a “super-specialist” in a certain niche, but to neglect knowledge and manual capabilities that might come handy in the battlefield. . . . A paramedic on the other hand is constantly focused on the field of emergency medicine and regularly performs manual lifesaving procedures. This keeps him in a high-level of performance but the actions the paramedic is trained to take target the very short-term period of prehospital care only.⁷⁷

To address the question of physician versus paramedic interchangeability in combat operations, the researchers interviewed 20 military physicians who, unlike the base of the American Army Medical Corps, had 10 to 15 years of experience in the setting of ground force operations. Common to the U.S. model, the study group’s primary specialties were diverse. Of equal importance is the fact that the comparator, the Israeli paramedic, was likewise not identical to the American PA. In parallel with the studied physicians, they

⁷⁶Gad Levy et al., “Physician versus Paramedic in the Setting of Ground Forces Operations: Are They Interchangeable?” *Military Medicine* 172 (March 2007): 301-5.

⁷⁷*Ibid.*, 301.

possessed experience in emergency and combat medicine beyond that of the American PA. Nonetheless, general truths discovered in the study likely achieve consonance between the two Armies. An example observation is provided below.

As a group, paramedics are more homogenous than physicians. Therefore, in planning the medical assistance to ground force missions, an active paramedic with similar experience will probably be as effective as the other, while in the case of a physician, one should carefully look into further details such as the physician's field of specialty and the degree of practice in treating trauma patients.⁷⁸

Although the trial is not of the most scientific design, the fact that paramedics were graded higher than physicians in “ability to perform lifesaving manual procedures”⁷⁹ is a critical piece of data that supports the contention that PAs can and should act alone at Battalion level. Not designed to hospitalize patients, the BAS's singular role in combat scenarios (and therefore that of the officers manning it) is to save the lives of the wounded. That paramedics were graded as superior in procedures that attained that goal is of profound importance. No piece of evidence could better match the PA capability to the BAS. The fact that paramedics scored lower at prolonged care is not surprising given the physician's traditional role and extended training in that area. More to the point, these findings perfectly support a layered model in which PAs remain forward at non-hospitalization units such as BASs, while physicians fill specialized roles in patient-holding facilities. Each position capitalizes on appropriate expertise for the setting.

⁷⁸Ibid., 304.

⁷⁹Ibid.

Benefits of Specialty Care at Battalion Level

The subject of preparedness for trauma is controversial. The problem is complex owing to the wide continuum in skills of the deployed physician contingent. Many variables factor into contributions made by any particular entity whether it is PA or physician. Intangible benefits likely exist, for example, in which the PA-physician interchange at the BAS improves aspects of practice of both providers. Variations from the Core Battalion Medical Mission as described in the delimitations portion of this thesis may provide circumstances in which the medical training of a physician may prove beneficial. For example, physician experience may create conditions for success in a scenario in which a critically wounded patient cannot be rapidly evacuated from the BAS. Specialty training may occasionally match an identified need outside of the Core Battalion Medical Mission. For example, a PROFIS pediatrician may be able to provide consultation to an ill child as part of stability operations. Additionally, profits from division of labor may exist in high-intensity offensive operations. While workload alone does not support the deployment of the two disparate education levels, high-risk missions may benefit from the presence of additional expert capabilities whether it is emergency-trained physician or PA. Finally, the placement of a physician at battalion level is a symbolic gesture of commitment that offers faith to deployed Soldiers that the Army, as an institution, values their health at almost any cost.

The arguments of this chapter do not pretend to draw evidenced-based conclusions. They only serve to suggest that physician presence at the battalion level likely imparts only symbolic value. The PA capability is appropriate (and maybe superior to that of the specialist physician) for the treatment of urgent trauma in cases in which the

BAS is not bypassed in the evacuation scheme. Physician value, if present, is small and potentially negligible for the Core Battalion Medical Mission. And, because physician resources are limited, the cost of this incremental value must be examined.

CHAPTER 4

PROBLEMS WITH PHYSICIAN DEPLOYMENT

There are deep, deep problems, throughout the military system. And it's going to take a long time to get to the bottom of them. But here's a glaringly obvious one, to start: there just aren't enough military doctors to go around. So many MDs have been deployed to war zones that coverage back home—for military family members, retirees, and garrisoned troops—has been spread awfully thin.

— Noah Shachtman, *Military MD Shortage at Home*

The Problems of Physician Deployment

As stated in the preceding chapter, the deployment of physicians to maneuver battalions likely adds very little practical value. This chapter will show that the cost of that value is exceedingly high. First, it will attempt to gauge the sentiments of those most affected by the policy directly. The current literature will then be analyzed for an assessment of the indirect influence of the policy on the garrison-based medical system. Then, potential long-term effects will be investigated. Finally, the approach to a similar problem in the surgical context will be analyzed for clues to a more successful system.

Specialized physicians deployed to the battalion level feel underutilized, undertrained, or a combination of the two. Rarely does a physician returning from the battalion level express a sentiment other than, “I didn't need to be there.”⁸⁰ Because Army PAs generally have the mission managed, it is uncommon for the Battalion Surgeon to be significantly occupied with the routine clinical mission of care to the battalion. As an example, in 2003, the 2/503d Airborne Infantry Battalion Surgeon (a

⁸⁰Based on the author's informal discussions with Internal Medicine physicians assigned to Womack Army Medical Center and deployed as PROFIS Battalion Surgeons during the 2007 “Surge.” This sentiment was also observed in the Army Cardiology community in 2007 on automated discussion groups.

pediatric cardiologist) was so underutilized at that position that he was relieved of the duty and instead given administrative and civil affairs duties at Brigade level. This type of decentralized redistribution of excess medical care is likely the rule rather than the exception. If it does not occur, many Battalion Surgeons find themselves with much free time on their hands to exercise or perform leisure and professional reading. The general sense of frustration with underutilization is well captured in the following After Action Report comment by a family medicine specialist and former 101st Battalion and Brigade Surgeon:

In our experience during this conflict, most battlefield medicine has been extremely basic and simple. Battlefield wounds sustained at our level were all easily treated by the combat medic. They were able to perform proper triage, basic ABCs, control bleeding, and provide immediate narcotics for pain and antibiotics to prevent wound infection. Once this was complete, there was little else that the BN [battalion] physician or PA could do to improve upon the care at the Level I BAS. . . . After our transition to SASO [Stability and Support Operations] operations it still has not been evident that the board certified [specialty trained] PROFIS physician is truly warranted. Our records show that over 80 percent of all the sick call patients were treated only by the medic using established SOPs and their ability to prescribe and administer prescription medications. The other 20 percent of patients could have been cared for by the PA or any physician. In the rare instance that the PA required additional specialty consultation, the FSB [Forward Support Battalion (Level II)], MSB [Main Support Battalion (Level II)], and CSH were within very close range for radio, telephone, or face-to-face consultation. The bottom line is that battlefield medicine at the Level I facility during combat and SASO is basic treatment, of which, the majority can be done by the combat medic. It does not require the specialized skills of a board certified, primary care physician. Although it is very comforting for commander to know that this physician is present, it is generally not needed and certainly did not enhance the treatment capabilities of the Level I BAS.⁸¹

⁸¹Bradley Vanderveen, Interviewed by author, 4 September 2009.

While the above statement reflects only a physician's professed futility of his presence at battalion level, the following anonymous post to the *Stars and Stripes*

Website hints at ludicrousness:

As an Army Pediatrician, I feel the frustrations of the military community I serve. The Army spent more than 7 years training the physician in their specific specialty (be it Pediatrics, OB/GYN, family practice, etc) with more than \$500,000 in resources to provide the military community with top quality medical care. Yet, as a Pediatrician, I am deployed to see only adults which I am not accustomed to nor have I had the proper training for. . . . A lot of good physicians are leaving the military because of the stresses on their family and unnecessary missions that are not related at all to their training.⁸²

These experiences are important because they show that attributing low retention rates to "deployment" in isolation is an oversimplification that may unduly absolve the Army Medical Department of responsibility. In many cases, the core issue is not that physicians are asked to deploy but the way in which they are implemented once on the ground. The act of dispersing specialized physicians into fully functional primary care systems may engender a sense of disenfranchisement. While patriotism and professionalism may initially counter these feelings, a second or third deployment is frequently all that is required for the Army to effectively "lose" these resources to the civilian world. Importantly, because physician management factors into negative deployment impressions, positive change may stem the tide. At the very least, change may represent a starting point for a turn-around.

A more immediate and palpable problem with deploying physicians to the battalion level is that it unnecessarily depletes the stateside provision of medical care to

⁸²Comment on "Top military complaint? Waiting for a Doctor," Stripes Central Blog site, comment posted on 4 June 2009, <http://blogs.stripes.com/blogs/stripes-central/top-military-family-complaint-waiting-doctor> (accessed 5 July 2009).

non-deployed soldiers, “Wounded Warriors,” and family members. This “indirect” influence has a much wider impact. In garrison, each physician manages a panel of hundreds to thousands of patients. The absence of even one physician has a cascading effect on small specialty clinics.

The degree to which soldiers and families at home are suffering due to physician shortages is revealed in the case study of Winn Army Medical Center. In 2006, Winn was the subject of a *USA Today* news article that brought attention to its inability to manage its healthcare mission due to a shortage of physicians.⁸³ According to Colonel Scott Goodrich, the hospital Commander, the hospital was temporarily forced to work with only 25 of its 41 physicians.⁸⁴ Both the Army Surgeon General and hospital commander attributed the root cause to “the demand for doctors in Iraq.”⁸⁵ Related problems included difficulty in filling vacated positions due to a shortage of reserve providers and bureaucracy-driven barriers to hiring civilian replacements. According to Colonel Goodrich,

All Army physicians, from pediatricians to dermatologists, serve one-year rotations into Iraq as frontline trauma doctors. . . . Multiple combat deployments have only exacerbated the situation. Doctors are proud to serve fellow soldiers in combat . . . but each deployment leaves one more vacant position to fill. Those taskings come from the Army’s medical command. . . . Their request at that point is ‘They’re going to leave. We know it’s going to hurt. Go hire someone.’⁸⁶

⁸³Gregg Zoroya, “At U.S. Military Hospitals, ‘Everybody is Overworked,’” *USA Today*, 5 June 2007, http://www.usatoday.com/news/nation/2007-06-04-military-hospitals_N.htm (accessed 1 August 2009).

⁸⁴*Ibid.*

⁸⁵*Ibid.*

⁸⁶Sean Harder, “Army Hospital Recovering from Doctor Shortage,” *Savannahnow.com*, 23 June 2006, <http://savannahnow.com//node/310958> (accessed 18

If hiring civilian replacements were easy, the disarray of the current home-front medical system would not be at issue. However, the frustration contained in the above passage only touches the surface of how difficult it is for the government to rapidly hire quality civilian replacements in a high-demand society at below competitive salaries.

Referencing unpublished material, Major Robert Mon described the model as one “that often requires [hospital] commanders to react by deploying their PROFIS physicians and then providing healthcare under crisis management with less than optimal staffing.”⁸⁷

With the Winn hospital straining under the burden of an unyielding demand and severely limited resources, patient complaints quadrupled in March of 2006 resulting in National news coverage.

The problems endured by Winn are not the exception. Inabilities to provide timely access to physicians were noted in several other “problem” Army facilities including Walter Reed, Fort Hood, Fort Campbell, Fort Riley, and Fort Jackson.⁸⁸ Physician staff shortages due to deployment and associated difficulty in finding civilian replacements were also noted and publicized in 2008 for clinics in the European Command.⁸⁹ In 2006, the American College of Emergency Physicians gave military hospital emergency rooms

February 2009).

⁸⁷Robert D. Mon, “A Policy Analysis of U.S. Army Professional Filler System (PROFIS) Sourcing Management At the Regional Medical Command Level In Support of an Expeditionary Army at War” (Master’s Thesis, U.S. Army-Baylor University Graduate Program in Health Care Administration, 2005), 18.

⁸⁸Zoroya, *At U.S. Military Hospitals, ‘Everybody is Overworked.’*

⁸⁹Nancy Montgomery, “Clinics Gird for Doctor Shortage,” *Stars and Stripes European Edition*, 23 April 2008, <http://www.stripes.com/article.asp?section=104&article=61614&article=true> (accessed 20 February 2009).

a grade of “C-” primarily due to congestion. The root cause for low grades in overcrowding, patient safety, and quality care was attributed to “too many doctors and nurses are deployed.”⁹⁰ The press did not publish that Fort Bragg’s Womack Army Medical Center was forced to terminate a majority of its outpatient Internal Medicine care in 2007 due to deployment of its specialists to Battalion Surgeon positions. Even so, according to the *USA Today* article, “More than half of the Army’s 36 facilities failed to meet Pentagon standards for providing a doctor within seven days for routine medical care.” Many believe that the Army’s highly publicized 2006 and 2007 inability to manage its “Wounded Warriors” at Walter Reed and beyond was a direct consequence of moving too many resources forward and not planning appropriately for the ongoing care of the wounded at home. The problems extend beyond local facilities. The Great Plains Regional Medical Command struggled with potential general “mission failure” in 2005 as a result of PROFIS and deployment tempo.⁹¹

This strained medical system represents a difficult environment in which to work. Deployment of even one physician can have severe effects on small specialty clinics. Physicians remaining behind suffer high workloads and increased administrative burdens. From 2006 to 2008, the two cardiologists at Womack alternated deployment time with clinic-based time. Both agreed that the downtime created by working at battalion level during deployment represented a welcome break from remaining behind at Womack as the solo provider and clinic chief. Garrison tasks included handling the multiple

⁹⁰Gordon Lubold, “Too Many Docs, Nurses Deployed, Report Says,” *Armytimes.com*, 30 January 2006, <http://www.armytimes.com/legacy/new/0-ARMYPAPER-1478133.php> (accessed 10 March 2009).

⁹¹Mon, 20.

administrative, clinical, and logistical chores of the service, which included managing three-fully staffed sub-clinics (cardiac catheterization lab, echo and telemetry lab, and cardiology clinic), treating all in-patient cardiology patients, and teaching family medicine residents and PA students. High “operational tempo” is thus suffered not by deploying Battalion Surgeons but by the stressed facilities they leave behind. Colonel Ken Canestrini, a member of the Army Surgeon General’s staff, summarized the situation in a 2009 *USA Today* article, when he admitted, “Hospital Commanders have overloaded their base physicians with too many patients.”⁹²

The quantitative impact of the current Battalion Surgeon model is best reviewed by analyzing a recent PROFIS Deployment System spreadsheet.⁹³ This document, obtained for a past combat rotation, included 898 PROFIS positions, of which 196 were physicians. All of the personnel selected to fill these positions left their staff positions at hospitals and clinics to contribute to the war effort in the next rotation of troops. Within the 196 physician positions, 107 (55 percent) were selected to fill specialty-specific positions. Almost all of these occupied positions in Forward Surgical Teams or Combat Support Hospitals and are not the subject of this study. The remaining 89 (45 percent) physician positions were requested by the 62B “Field Surgeon” title and may be one of a large variety of specialties, as discussed earlier. Approximately 46 (23 percent of total physicians deploying) of these positions appear to be Battalion Surgeons. If these billets were eliminated, approximately one in every four PROFIS physicians would not deploy

⁹²Gregg Zoroya, “Routine GI Health Needs Not Met,” *USA Today*, 30 July 2009, http://www.usatoday.com/news/military/2009-07-30careaccess_N.htm (accessed 31 July 2009).

⁹³Gin.

and would therefore remain available to their home-front clinic for ongoing specialty care.

The long-term effects of the current deployment schedule signal a potential post-Vietnam-like doctor shortage. After being at or above its limit for the entire 1990s, the Army Medical Department has not been able to meet its budgeted end strength since the year 2000.⁹⁴ In 2008, there were 4333 doctors in the Army, which was 123 short of its budgeted end strength. More importantly, the shortfalls are likely to worsen. The Health Professions Scholarship Program (HPSP), the Army's "lifeblood for recruiting physicians"⁹⁵ has not met recruiting goals since 2004. In 2006, Army Surgeon General Kevin Kiley illuminated his concerns about the impact of the reduction in scholarships on future shortages stating: "The impact will be felt 'down stream,' creating future shortages but not affecting the current number of doctors available for war or stateside care."⁹⁶ Kiley blamed some of the downturn on publicity associated with the Iraq war. This trend has implications not only on future quantity but physician quality because standards are reduced to fill scholarships. Retention likewise is suffering. Many doctors, displeased with their wartime utilization and fearful of future deployments, leave the Army at the first opportunity. From 2005 to 2008, retention rates amongst doctors averaged 59 percent. This has generated "concern" on the part of the Medical Corps which

⁹⁴Herman J. Barthel, "Medical Corps Branch Brief," March 2007, Uniformed Services Academy of Family Physicians, <http://www.usafp.org/USAFP-Lectures/2007-Lectures/14%20March%20-%20Wednesday/Barthel%20-%20Army-MC%20Branch%20Brief%20USAFP%20MAR%202007.ppt> (accessed 12 September 2009).

⁹⁵Tom Philpott, "Medical Recruiting Falls," *Military.com*, 7 July 2006, <http://www.military.com/features/0,15240,104359,00.html> (accessed 1 August 2009).

⁹⁶*Ibid.*

acknowledges that it is “better to retain a quality experienced Officer than to access or recruit one.”⁹⁷ The looming doctor shortage attracted the attention of Congress in 2006.⁹⁸ The senate approved new authorities to dispense increased taxpayer monies to improve recruiting rates but failed to analyze whether more thoughtful physician utilization could play a role in improving both recruitment and retention.

The Forward Surgical Team Parallel--An Example of Problem Resolution

Fortunately, the pathway to a successful solution has already been cleared. The Army surgical community faced a nearly identical problem in the Iraq War. The practice of assigning Forward Surgical Teams to combat brigades imposed significant hardships on General Surgeons during the stability phase. Writing in 2006, Colonel Richard Thomas drew similar links between general surgeon underutilization while deployed to disenfranchisement and poor retention. He stated:

An increased operational tempo combined with the reality that deployed Forward Surgical Team surgeons currently have little opportunity to operate, has consequences. Surgeons are leaving the military while the Army considers options to counter this worrisome trend⁹⁹

The FST experience is important because it represents a parallel problem that was identified by those affected, documented as a problem related to Army Medical Department policy (beyond the realities and necessities of deployment), and, eventually,

⁹⁷Ibid.

⁹⁸Tom Philpott, “Medical Recruiting Falls,” *www.military.com*, 7 July 2006, under “Army, Navy Medical Scholarships Go Begging,” <http://www.military.com/features/0,15240,104359,00.html> (accessed 31 July 2009).

⁹⁹Thomas, 19.

corrected. The following statements from Colonel Thomas's thesis, are as applicable to board-certified non-surgical specialists deployed to maneuver battalions as they are to General Surgeons deployed to under-employed FSTs: (1) "Unless the current operational tempo is scaled back, over-deployed (and under-utilized) surgeons will continue to leave the service,"¹⁰⁰ (2) "Keeping FSTs in theater without legitimate need to justify their presence is a misuse of Army surgeons. The well is running dry and we are facing a crisis due to poor management of trained medical personnel,"¹⁰¹ (3) "The strategy-capabilities mismatch caused by a flawed policy of saturating Iraq with surgeons must be corrected by immediate Army Medical Department action. Unless changes are made soon, the current inventory of surgeons will be insufficient to meet the on-going support requirements for the GWOT [Global War on Terror] and the needs of military hospitals in the continental United States."¹⁰²

Notably, the Army Medical Department heard the pleas of its struggling surgical specialty. New doctrine has been introduced which effectively removes the FST from its role as a subordinate unit to a maneuver command. Under the new plan, FSTs will remain under the control of medical commands. Because of their broader vision of the medical mission across the theater, medical commands can more appropriately cross-level surgical units amongst maneuver, support, and, indeed, garrison units. In analyzing the parallels between the corrected FST issue versus the ongoing uncorrected Battalion Surgeon situation, the biggest difference between the two is likely the ability to unite to

¹⁰⁰Ibid., 22.

¹⁰¹Ibid.

¹⁰²Ibid., 19.

vocalize the problem. If not for the sheer variety of specialties affected by the policy of deploying physicians to maneuver battalions, it is likely that a lobby similar to that of the General Surgeons would have already been formed to illuminate and solve the issue.

The Problem Summarized

The Army has two “pools” into which it must distribute its limited physician resources: treatment of deployed soldiers and care of the home front. The equation for determining the correct amount of physicians to place in each must be optimized through careful analysis. The current balance is unevenly and unnecessarily tilted toward the deployment pool with significant repercussions affecting the under-attended home front pool. As the home front mission creeps closer to failure, the Army Medical Department must entertain the question: Can physicians simply be removed from the Battalion Surgeon position or are there unintended effects that have not been considered? It has already been argued that PAs can adequately handle the battalion mission. To answer the question about potential feasibility in other areas, history provides insight. The next chapter will show that the concept of removing physicians from the BAS is far from novel. Similar circumstances born from the Vietnam conflict resulted in the postulation more than 30 years ago. The enacted solution proved the model not only possible but also appropriate.

CHAPTER 5

HISTORICAL PRECEDENT

Military Organizations [in the interwar period] had to establish doctrinal frameworks to deal with the issues that war raises. Unfortunately, they often have taken such doctrinal conceptions into war and instead of innovating in response to the realities which they actually confronted, they molded conditions to fit peacetime perceptions and assumptions.

— Williamson Murray,
Military Innovation in the Interwar Period

Historical Precedent--Battalion Surgeon Abolished from 1973-1984

The original role of the Physician Assistant in the Army of the 1970s was not to augment the Battalion Surgeon or to work hand-in-hand with him during contingencies, as is currently the case. The PA was expressly incorporated into the Army to *replace* the Battalion Surgeon. And from 1973-1984, the PA did just that. Indeed, if not for the mid-1980s reinstatement of the Battalion Surgeon, the impetus for this thesis would not exist. This chapter will first examine the logic and experience that resulted in the abolition of the Battalion Surgeon. Thereafter, it will seek to understand the environment that resulted in his reinstatement.

The decision to abolish the Battalion Surgeon was entirely due to experience gained in the Vietnam War. Two features of that war combined to decrease the combat relevance of the Battalion Surgeon and the BAS. Both of these items have previously been mentioned but deserve additional attention as their existence in Vietnam mirror the current situation.

First, the array of combat in Vietnam was notable for its lack of traditional boundaries, as there was no single defined front. Soldiers engaged in combat in

noncontiguous areas. It was as though the linear areas previously used to simplify the conduct of war had been mixed in a shaker and then spilled across the map. This ambiguity in the lines greatly affected evacuation because medical doctrinal organization of the battlefield became impossible. Medical resources were correspondingly mixed. As a result, BASs were not necessarily closer to the fight than higher-level medical resources. Battalion aid stations declined in importance as patients were increasingly evacuated directly from point of injury to higher levels of care. As has been mentioned, an environment similar to that of Vietnam has been duplicated in Iraq and Afghanistan.

The second feature that decreased the relevance of the BAS in the Vietnam War was the introduction and coming of age of the air ambulance. The speed offered by helicopters reduced evacuation times by such a degree that pilots and flight medical personnel alike could afford to bypass lower levels of care to get patients directly to surgical hospitals. The time sacrificed by overflying a resuscitation stop was more than compensated for by time saved in bringing patients directly to immediate and definitive surgical care. As with current warfare, an unofficial policy emerged in which the BAS virtually lost its role in front line trauma care. According to the Vietnam-era Deputy Surgeon General:

The almost exclusive reliance upon the helicopter ambulance had virtually eliminated the battalion aid station, and often the division clearing station, from the chain of evacuation when a surgical, evacuation, or field hospital was within the same flying time or distance.¹⁰³

As these discoveries gained momentum, the Battalion Surgeon became increasingly underutilized and isolated at the BAS.

¹⁰³Spurgeon Neel, *Medical Support of the U.S. Army in Vietnam 1965-1970* (Washington DC: U.S. Government Printing Office, 1973), 97.

As the Vietnam War concluded, the authors of its design actively sought to capture lessons learned. Out of their analysis was published a series of monographs commissioned by the Army Chief of Staff. Major General Spurgeon Neel authored the medical portion of the “Vietnam Studies” series. Major General Neel served two tours in Vietnam in positions of “extreme responsibility” including Surgeon, U.S. Army Vietnam, and Surgeon, U.S. Military Assistance Command, Vietnam.¹⁰⁴ In these roles, he was the senior medical advisor to Generals Westmoreland and Abrams. Major General Neel’s book, entitled, *Medical Support of the U.S. Army in Vietnam 1965-1970*,¹⁰⁵ is by all reports the definitive account of medical care in modern warfare. It is in this work that the logic behind the abolition of the Battalion Surgeon in 1973 is fully explained. Two conclusions contributed significantly to the decision.

First, and of major importance, was the deduction that the medical innovations witnessed in Vietnam (particularly the use of the air ambulance) were likely revolutionary and applicable to the conduct of future wars. Neel states that, “By mid-summer of 1967, it was apparent that the impact of the helicopter on the doctrine and organization of field medical service was not transitory.”¹⁰⁶ Numerous others echoed the sentiment. “Many medical officers with combat experience in Vietnam agreed that the reliance upon the helicopter was not a condition that was limited to the peculiarities of the Vietnam conflict.”¹⁰⁷ With this condition then a permanent fixture of modern war, it

¹⁰⁴Neel, iv.

¹⁰⁵Ibid.

¹⁰⁶Ibid., 97.

¹⁰⁷Ibid.

did not make sense to continue to propagate a doctrine that dispensed highly trained physicians to forward areas in which their skills would be habitually bypassed.

The second impetus for the decision was culled from the perceived limited effectiveness of a physician isolated from the tools and environment of his training. In the monograph, much discussion is devoted to the developing complexity of medical care in the 1970s. A specific point of discussion is that physicians, in order to be most valuable, needed to occupy a central role in a multidisciplinary medical community. Major General Neel mentions that physicians were best deployed in hospital settings amongst the tools of their trade in the form of laboratories, x-ray facilities, formularies, and hospitalization facilities (patient beds).¹⁰⁸ Contributing to the decision was the reality of significant physician shortages. According to Frederick E. Gerber, “beginning in the late 1960s and early 1970s, the Army experienced massive losses of career medical officers due to poor ‘conditions of employment.’”¹⁰⁹ The Army needed to resource its remaining assets wisely. Placing doctors at Battalion level was not a prudent use of their expertise.

As mentioned, the decision to abolish battalion surgeons was not made by a man in isolation. Rather, it was supported by lessons learned and a survey of 100 combat physicians. The following paragraph summarizes succinctly the consensus pattern of thought that resulted in the elimination of the Battalion Surgeon:

Vietnam, and other recent experience in division and brigade medical support, has shown that it is no longer necessary nor desirable to assign medical officers to combat battalions. The impact of helicopter evacuation, frequently overflying

¹⁰⁸Ibid., 177.

¹⁰⁹Frederick E. Gerber, “The Battalion Surgeon: A Background Study and Analysis of His Military Training. U.S. Army” (Master’s Thesis, Command and General Staff College, 1985), 5.

battalion aid stations and going directly to supporting medical facilities, is only one of the considerations. Equally important is the nature of modern medical education and modern medicine, and the orientation of today's young physician, who depends heavily on laboratory and X-ray facilities, and on consultations with other physicians. This is the best way to practice medicine and field medical organization is being modified to accommodate this reality.¹¹⁰

While announcing the end of the era of the Battalion Surgeon, Major General Neel concurrently proclaimed the beginning of the era of the PA as his replacement.

The battalion surgeon is being removed from the combat battalion. His clinical replacement will be a well-qualified technician, probably in the grade of warrant officer, and modeled after the "physician's assistant" in civilian practice. The technician will work under the direction of the physicians in the brigade base and will provide initial resuscitation to wounded and do screening at sick call. The general practice of medicine will be moved from the battalion to the brigade base.¹¹¹

As already discussed, the final concept of the envisioned "well-qualified technician" went well beyond being modeled after the PA to being that exact entity without modification.

There are many similarities in context between the circumstances that yielded that historical action and the conditions affecting the Army Medical Department today. First of all, the decision arose from in-depth analysis of medical care to a mature theater of operations in a protracted war. The major features of the justification, including nonlinear battlefield troop arrays, helicopter evacuation, and forward surgical assets, continue to exist and improve. It is interesting to note that the appropriateness of bypassing levels of care has recently been re-discovered in Afghanistan and covered in the media as a novel and beneficial practice.¹¹² Second, the Army faced severe physician losses and needed to

¹¹⁰Neel, 177.

¹¹¹Ibid.

¹¹²Jakes.

wisely distribute limited resources. Finally, even at that time, more than 30 years ago, prior to wide-spread physician specialization, prior to the termination of the General Medical Officer model, prior to the revolution in medic-focused care, and prior to the creation of the modern day PA, the Army recognized that the skill-set captured in complete physician training went well beyond the requirement at the battalion level. Further than simply recognizing the problem, the Army recommended and implemented a solution for the inequality between requirement and training. The much less-expensive PA was custom-built to replace the physician in the role of front-line care provider.

The 1984 Reinstitution of the Battalion Surgeon

The heights to which the PA has risen were documented in previous chapters. At no point did he fail in his role. Yet, in 1984, more than a decade after its eradication, the Battalion Surgeon position was reinstated. While considered “momentous”¹¹³ in its day, this decision, through the passage of time, has resulted in the current normalcy of present-day medical force structure. A thorough analysis of the justification behind this decision is critical. Unfortunately, no meticulous primary documentation of the type created by Neel exists to explain the turnaround. How then was the careful analysis of Neel and his 100 surveyed combat-hardened physicians overturned? Why were the lessons-learned of Vietnam stricken from the record?

Notably, the decision could not have been born of novel American combat experience. The only major U.S. conflict in the time period had been the less than two-month invasion of Grenada and that operation had occurred in late 1983. If the decision

¹¹³Gerber, 26.

was based on particular events, trends, studies, or a specific re-examination of the needs of the combat battalion versus its medical capability in the PA, that data is not available. Instead, the decision appears to be one of many features of a much larger plan to reform the Army. In support of this contention, the 1985 thesis by Gerber provides data. While a secondary source, the thesis attains credibility by its chronologic proximity to actual events. Even at the time of research for that thesis, however, the author mentions as a limitation to his work, “the general lack of detailed and comprehensive documents specifically concerning the re-establishment of the Battalion Surgeon.”¹¹⁴

Historical context and the presence of one primary document suggest that the decision was part of a much larger plan to introduce modularity into the Army medical Corps. At the time, the Army Training and Doctrine Command was instituting a new Army-wide doctrine entitled “Air Land Battle” which emphasized the combination of ground unit maneuver and firepower with air force targeting on a tactical level. In support of this effort, the Army Medical Department worked with its parent organization to create a medical doctrine to fit. This doctrine was entitled “Health Service Support Air Land Battle.” As part of the focus on Air Land Battle, the Army designed a light modular division that could both fight major conventional land wars as well as deploy to contingency missions of the type seen in Vietnam. The Army Medical Department supported the light division concept through the creation of the “Modular Medical Support System (MMSS).” On this concept, primary material is available. The concept was briefed to and accepted by Vice Chief of Staff of the Army General Maxwell

¹¹⁴Ibid., 18.

Thurman in December 1984. The supporting document, the “Medical Systems Program Review (MSPR)” is revealing.¹¹⁵

The MSPR stated that the MMSS would “standardize medical units found throughout the division while providing them with increased capability and flexibility.” To this end, the MMSS defined five medical modules as follows, (1) combat medic, (2) treatment squad, (3) area support squad, (4) patient holding squad, and (5) ambulance squad. Of particular interest is the envisioned treatment squad. This module included a physician, a PA, and 14 medics.¹¹⁶ This strategy was notable for three reasons: (1) because the treatment squad was included in combat battalion medical platoons, it recreated the role of the physician-trained Battalion Surgeon, (2) the required skill set of the module (patient assessment, insertion of breathing tubes, prevention and treatment of shock, body fluid replacement, emergency trauma treatment, and initial burn treatment) did not justify the inclusion of the physician, and (3) it combined the physician with the PA, the entity that had replaced him without difficulty for more than a decade, to create an augmented capability well beyond anything ever fielded before.

This material describes a paradigm shift that occurred in a time and atmosphere far beyond the reach of the harsh realities of war. In this setting of abstract considerations of future wars, an attitude of “Nothing’s Too Good” was perhaps affordable. Even so, the fundamental question of “why?” remains unanswered. Why did the “qualified technician” concept lose its footing?

¹¹⁵Richard H. Agosta, Office of Medical History–Office of the Surgeon General, Email message to author, 20 May 2009, Email contained attachment, “Excerpts from the Medical Systems Program Review.”

¹¹⁶Ibid.

Gerber connects the theory behind the change in reasoning to events in the contemporary Arab-Israeli conflict. According to Gerber: “Lessons learned from the Israeli Army’s experience in the Middle East Wars since 1968, heavily influenced the U.S. Army Medical Department to once again assign physicians as Battalion Surgeons.”¹¹⁷ The Yom Kippur War of 1973 was particularly appealing as an object of study for the authors of “Air Land Battle” in the 1980s.¹¹⁸ From the military viewpoint, it represented the first confrontation of armored forces since the end of World War II. As such, it fit with conceptions of what future conventional war between the U.S. and Soviet Union would likely resemble. Unlike Vietnam, its battlefield morphology matched comfortably within doctrinal code. In the medical realm, the Israelis deployed physicians to front line units. Gerber suggests that the success of that model compared to previous Arab-Israeli conflicts impressed Army Medical Department leaders.¹¹⁹ That this sentiment swayed American doctrine is supported by the fact that Major General William Winkler, then Commandant of the Academy of Health Sciences publically stated that the Israeli performance would influence the as yet unrevealed MMSS modified doctrine.¹²⁰

Decision Analysis

Is it plausible that the successes of the Israeli medical plan so blinded American policy makers that they failed to consider fundamental differences between the forces?

¹¹⁷Gerber, 14.

¹¹⁸Ibid., 26.

¹¹⁹Ibid.

¹²⁰Paul Smith, “Army Considers Treating Slight Wounds at Front Line, Evacuating Severely Injured,” *Army Times*, 3 December 1984.

The facts suggest it. Yet, an objective discussion of the differences between the defensive Israeli wars and the expeditionary-type wars fought by the U.S. should have been considered. The desert terrain supported a specific type of war whose lessons cannot necessarily be generalized. Additionally, the very short duration of the 1973 war (less than three weeks) permitted an Israeli surge in physician staffing from a large base of nearby reserves. Such circumstances created a war in which the realities of resource allocation to prolonged stability operations could be overlooked.

Far beyond these observations, American policy makers appear to have disregarded the key doctrinal tenants so carefully developed by Neel and colleagues based on the Vietnam combat experience with unique American Forces. As discussed, these tenets included: (1) high helicopter availability allowing the rapid evacuation of patients from point of injury to definitive care, and (2) the substitution of battalion level physicians with “well qualified technicians” permitting appropriate resourcing of limited medical assets.

Of importance is the fact that the Israeli evacuation scheme retained the channelized evacuation pattern of previous conventional wars (figure 2). The Israeli forces had relatively few helicopters and absolutely no dedicated air ambulance helicopters. As a result of these characteristics, air evacuation from point of injury was impossible. Patients were transported to BASs by ambulance where they waited for hours (three to four hours on the Northern Front and six to eight hours on the Southern Front) prior to helicopter casualty evacuation.¹²¹ This model, termed “persistence in combat” was one that the American Army, with its helicopter heavy composition, had matured

¹²¹Gerber, 10-11.

beyond both practically and consciously in 1973. The strategy requires an extremely high provider resource burden and provides no advantage over a “rapid evacuation” strategy.¹²² Indeed, the acceptance that the “persistence in combat” model no longer applied to American Forces had permitted medical doctrine to evolve after Vietnam.

An even larger oversight was a potential unawareness of the American policy-makers of the previously accepted logic of placing “well qualified technicians” at battalion level. By reinstating the Battalion Surgeon, this practice appears to have been dismissed. Again study of events proves informative. A physician and seven medics manned Israeli battalion aid stations in the early 1970s. PAs were not, as yet, available. This resulted in the term “physician-led” frequently being inserted into After Action Reports as a modifier of lessons learned. It is notable that a majority of these lessons, such as, “medical treatment must be rendered as far forward as possible,”¹²³ are not controversial. While there is acceptance of a causal relationship between rapid and far-forward care and improved outcomes, what is debatable is whether the same relationship exists for “physician-led” forward care.

The following observation from the Israeli War of Attrition provides a case and point:

The location of physicians and medical teams therefore influence the rates of KIA [Killed in Action] and DOW [Died of Wounds]. During the War of Attrition . . . our medical teams along the Suez Canal were multiplied by a factor of four and immediately the number of KIA was reduced from 25.6 percent to 18.1 percent. This is due to the fact that every casualty was treated by a physician.¹²⁴

¹²²Johnson, Cecchine, and Sollinger, 23.

¹²³Gerber, 9.

¹²⁴J. Adler, “Evacuation and the Medical Care of Casualties During the War of

In this analysis, the author introduces two possible variables (increased medical teams and physician treatment) for the observed result and attributes causality to only one. Yet, the logic is flawed and easily refuted. As has been shown, the immediacy of rudimentary care has more power to save lives than physician-directed care at aid stations. Therefore, medical team availability likely changed the result and not the contained expertise.

Another example of faulty reasoning is available in this statement; “physician-directed care far forward on the battlefield ensures maintenance of the casualty’s physiology thereby increasing the probability of his return to duty.”¹²⁵ The problem with the assertion “physician-directed” is that it relies on a descriptive term that encompasses a large and diverse set of skills. It doesn’t focus on the exact required capability. Nonetheless, the power of such statements, at face value, may have been difficult to discount without accessible knowledge of the issues discovered in Vietnam. Major General Neel and his colleagues recognized the fallacy in such thought, parsed out the required need in the form of the PA, and took the steps required to reform. Indeed, the major arguments of this thesis (of which the study demonstrating PA-over-Battalion Surgeon superiority in combat trauma management is an example) are focused on questioning the utility and demonstrating the risk of such broad assumptions.

The Israelis may likely have attained identical successes if physicians had been replaced with “well trained technicians” and abundant helicopters. The 1973 War was not a head-to-head trial of 1980s Israeli versus American care. Rather it provided

October 1973” (Lecture, 8th International Conference for Junior Military Physicians, Munich, Germany, 6-15 October 1977).

¹²⁵Agosta.

retrospective observational data contemporary in time to that drawn from Vietnam but applicable to a completely different force and type of war. It included a strategy of battlefield care that had already been rejected by American planners due to American availability of helicopters and a “rapid evacuation” policy for their use. It included no comparison of military PAs, the 1980s American specialists in combat care, to specialized physicians. Without data suggesting otherwise, the resultant change in American doctrine may have represented an acceptance of applicability of Israeli practice to U.S. forces. Unfortunately, it also represented a reversal of the substantiated conclusions developed out of the in-depth intellectual work of the Vietnam physicians. Writers of doctrine may have regressed to assumptions of medical coverage beyond which the previous generation of medical planners had deliberately and rationally progressed. Ultimately, this reflexive step backwards was the origin of our current medical system.

Interestingly, the immediate impact of this policy change was not widely felt. The PROFIS system, created in 1980, was accepted as appropriate for the renewed Battalion Surgeon position. With perhaps only written notification of their new duality, it is probable that the majority of PROFIS Battalion Surgeons continued their day-to-day clinical activities relatively untouched. Indeed the consequences of the 1984 decision lay dormant, apart from the relatively short-lived exception of Desert Shield/Desert Storm, until the Wars in Iraq and Afghanistan rinsed away their crust of peace-based idealism to reveal the very same problems identified in Vietnam.

In spite of the existence of a tested solution to counter the current resource imbalance felt in the Army Medical Department, change has been slow to manifest. In an

effort to bring clarity to perceived doctrinal inertia, the next chapter will address potential barriers to change.

CHAPTER 6

OBSTACLES TO CHANGE

As shown, current medical doctrine cannot be explained by pure logic. Beyond hard and fast science, the system has been prejudiced by sociologic influences and historical swings of opinion. Less-than-rational factors of human behavior, motivation, and emotion are present. If change is to occur, it is critical to address the human dynamics and biases that may prevent evidenced-based advancement.

One such bias is that physicians are the default “best” medical provider for almost any medical action. This thought process undoubtedly entered the equation in 1984 when physicians retook the reins of battalion medical care without any data to suggest that the Army PA was not fully qualified for the mission for which he was designed. The fact that such change occurred easily, comfortably, and without challenge as part of a larger initiative demonstrates a natural tendency to regress to beliefs of physician superiority. Even when PAs outscored physicians on all aspects of battalion medical care in 1992,¹²⁶ the institutional conclusion was not that PAs had appropriately achieved proficiency in their narrowly tailored mission, but that physician training in combat medicine was insufficient. The deep-seated belief that physician training is unparalleled in all aspects of care so permeates the collective Army consciousness that physicians routinely find themselves in positions far outside that of the hospital paradigm for which they are specifically trained. Their anachronistic position at BASs is but the tip of the iceberg. In Operation Iraqi Freedom, examples exist in which Infantry Commanders placed

¹²⁶Robinson.

physicians on the “front line” with medic bags. This maneuver struck the forward physicians as absurd. They wondered what capability, without the specific diagnostic and therapeutic apparatus of their profession, they were expected to bring to that level of care beyond that imbued in the qualified medic.

A corresponding problem is that PAs and medics are undervalued. When the specialized physician arrives at a combat battalion as a PROFIS augmentee, he or she is automatically placed in a position of authority over the medical platoon including the PA. This practice serves to suggest that the knowledge offered by the PA is inferior in quality to that offered by the physician and devalues the PA in the eyes of the unit to which he has always been assigned. While the physician’s knowledge may be broader and deeper in every other realm of medicine, it is not likely so for the specific medical missions of the BAS. Neglected is the fact that the Army PA is the product of an education system that focuses intensely on the specific medical issues likely to be encountered in a predominantly healthy Army population. While the training may be less in time, it is focused directly and completely on the problem. That the PA is designed specifically for the mission of battalion combat medicine is lost amidst a hope that the physician, with whatever his training may be, might be even better suited for the mission.

“Nothing’s Too Good”

Another aspect of human motivation that must be considered is a mentality best termed the “Nothing’s Too Good.” This phrase describes a thought-process, espoused by military leaders, which dutifully demands an excess amount of medical coverage for the Soldiers in their charge. The pattern of thought essentially embraces incredible effort and dedication of resources to protect the lives of Soldiers. The vocabulary implemented in

discussions based on this frame of mind utilize patriotic expressions such as “the Sons and Daughters of America” or “Nation’s Blood and Treasure” to incite an emotional rather than completely rational response. The Israeli investigators who sought to determine PA and physician interchangeability note how a combination of the “Nothing’s Too Good” mentality and the previous aforementioned prejudices may affect unit and public opinion. They state:

The presence of a physician on the team may have a positive morale impact on the team members since a physician is generally perceived as the highest level of medical caregivers. A paramedic might be considered a second best. This effect also plays a role in the way the army is perceived by the general public since the assignment of a physician is a statement that the army does not spare any effort in providing the highest quality of care to combat soldiers.¹²⁷

If medical resourcing decisions were left completely to the maneuver commander, he would demand any and every asset possible for his men. And why shouldn’t he? Risk assumed elsewhere is no concern of his. Indeed, were resources unlimited, it would be hard to deny him any asset that may conceivably be of medical benefit. Symbolic gestures do have an impact on morale. Yet, when resources are limited, risk must be assumed. The “Nothing’s Too Good” mentality imparts risk to those entities that lose medical coverage as it surges elsewhere. Its focus on individual units neglects larger finely balanced systems. As stated, the “Nothing’s Too Good” concept is based in emotion rather than rational thought. As such, the use of logic is only partially effective in combating it. Indeed the presence of “Nothing’s Too Good” can make even the suggestion of a lessened level of care appear unpatriotic and uncompassionate. It is

¹²⁷Levy et al., 302.

entirely possible that this mentality poses an obstacle to removing Battalion Surgeons from the line.

The “Nothing’s Too Good” phenomenon may go far to explain the lack of any published material questioning the utility of Battalion Surgeons at the maneuver battalion level. It simply feels cold to suggest that less care be dedicated to the line. Conversely, it is much easier to campaign in favor of “improved” care even without perfect data. For example, at least one article exists which suggests the need for *increased* medical care at the maneuver battalion level.¹²⁸ The article, written by a Battalion Surgeon trained in the specialty of Emergency Medicine, compares case fatality rates collected from his BAS in Iraq (7.14 percent) to theater-based data (10.45 percent) to suggest that his aid station achieved better survival statistics. The article is flawed in that the very evidence presented to support its assertions, in fact, refutes them. Case fatality rates are the summation of KIA and Died of Wounds (DOW) statistics. The author’s DOW rate was *identical* to those of the theater (which were extremely low at one to 1.5 percent and consistent with Bellamy’s Vietnam data). The “DOW” rate, which measures the rate of Soldiers who succumb to wounds after reaching a medical facility, is the only statistic that can be used to measure the quality of combat medical facility care. The “KIA” term refers to Soldiers who die before reaching aid stations and thus cannot be used to measure medical facility care. The Emergency Medicine physician did no better than the theater at large.¹²⁹ The fact that the article was published in spite of this oversight speaks to the

¹²⁸Gerhardt.

¹²⁹Gerhardt’s data supports that the extremely low mortality rate observed in patients reaching medical facilities is present in Iraq as it was in Vietnam. It also reinforces the singular importance of medic-applied TCCC in reducing the KIA rate.

power of the non-evidenced-based presumption that specialized physicians provide superior levels of care. Worse yet, the accompanying editorialist embraces the “Nothing’s Too Good” mindset. In recommending that Emergency-trained specialty physicians be dispatched to each and every BAS (based on misinterpreted data, no less), the writer overlooks the realities of limited resources and the need for practical solutions to cross level them.¹³⁰ His emotionally defensible solution, while satisfying on a surface level, skims the depth of the issue.

“Just in Case”

A variation of “Nothing’s Too Good” mentality, the “Just in Case” mindset exists when commanders possess medical capabilities which are acknowledged to be overkill. Rather than relinquish such medical assets for the good of the larger community, commanders retain them, fully recognizing the degree of their underutilization, on the off chance that they may eventually be needed. Colonel Richard W. Thomas coined the “Just in Case” catchphrase in 2006 to explain the previously mentioned “saturation” of the Iraqi theater with Forward Surgical Teams. As discussed, he noted that these mobile assets, created expressly to accompany maneuvering Brigade Combat Teams in major combat operations, remained under the authority of such brigades well into the stability phases of the operation.

Once stability operations are achieved, the FST is best utilized by co-locating the team with the [Combat Support Hospital] to augment the hospital’s surgical element. Otherwise the FST should be redeployed. At present, FSTs remain under the operational control of divisions and brigades . . . Commanders have developed a preference for ‘just in case’ medicine and have been reluctant to relinquish control of FSTs. As a result, most of the FSTs in Iraq have been underutilized for

¹³⁰Suter, 175-77.

many months. Team members have experienced long periods of inactivity, resulting in low morale and concerns for the erosion of very perishable surgical skills.¹³¹

As in the case of the FST, the “Just in Case” line of reasoning may have influence as an argument in favor of retaining physicians at battalion level. Once again, the argument, based on emotion, ignores or downplays negative second order effects of the action on the Army medical system as a whole. The fact that the FST problem was solved demonstrates that perceptions damaging to the medical system as a whole can be managed.

“Physician Territory”

From time to time, subtler forms of the emotion that inevitably surrounds complicated issues surface. In his 2005 examination of the improvement in battlefield mortality in Iraq, Tom Philpott touches on a motivation that could not be a part of a purely scientific explanation of the status quo.¹³² In describing the evolution of a mindset that resulted in more in-depth TCCC medic training, he states: “It’s no small thing for doctors to give battlefield medics more trauma care responsibility.”¹³³ To support his idea, he quotes Major General George W. Weightman, then Commander of the Army Medical Department Center and School: “[Training medics in Tactical Combat Casualty Care] was a giant leap of faith for us because, in the medical profession, we tend to guard

¹³¹Thomas, 18.

¹³²Tom Philpott, “Military Update: Fewer war wounds suffered in Iraq are fatal,” *Stars and Stripes*, 16 May 2009, <http://www.stripes.com/articleprint.asp?section=104&article=33032> (accessed 16 May 2009).

¹³³*Ibid.*

our skills because we don't want to do any harm."¹³⁴ This candid remark demonstrates evokes a conservative attitude. As has been shown, "letting go" of advanced trauma knowledge was the proper move no matter how uncomfortable it might have felt for physicians. A variation of the phenomenon of physician "guarding of skills" may represent an emotional link to the identity of battalion surgeon. After all, the title has been the rightful property of physicians since the time of Napoleon. As with TCCC, letting it go may be difficult no matter how appropriate.

The motivations listed above represent selected examples of a multitude of potential sociological variables that may play a role in decisions to retain or abolish the position of the Battalion Surgeon. The list is likely not all inclusive. Barriers in emotional thought are presented as obstacles around which the facts of the problem must be dissected. The final chapter will provide a set of conclusions and recommend a road ahead.

¹³⁴Ibid.

CHAPTER 7

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

In a 2009 article, members of the Army Surgeon General's staff stated that the Army didn't have adequate physicians for both the combat and home front mission.¹³⁵ The fact of the matter is that the Army doesn't have enough physicians to place them where they will be minimally utilized. The purpose of this thesis is to examine the requirement of placing specialized physicians into the position of the Battalion Surgeon. The answers to secondary research questions provided an informed viewpoint with which to assess the problem. In order to present a cogent recommendation the answers to the secondary research questions are recapitulated below in the order presented in the preceding chapters.

First, the Army's current medical doctrine is linked to its past. Its evacuation structure still safeguards the memory of a ground-based channelized system. Modifications have been made to adapt to innovation in medical knowledge, training, and expertise, but the leveled structure cannot escape its history. More saliently, bonds to the past may be detrimental. Doctrine recognizes neither the overlap of the PA and Battalion Surgeon roles nor the PA's increased influence due to his omnipresence. In conforming to tradition-based doctrine, physicians are displaced from combat and garrison hospitals where their specialty knowledge is maximally leveraged. If the Army Medical Department chose to build from scratch a new doctrine with its currently available

¹³⁵Gregg Zoroya, *Routine GI Health Needs Not Met*.

resources but without its ties to the past, it is unlikely that it would displace so much of its specialized expertise forward to leave its base struggling for survival.

Second, emerging trends in frontline medicine have appropriately spread (or “layered”) life-saving tactical combat casualty and forward surgical care over the battlefield like blankets over a bed. This methodology has exhibited proven results. It has also lessened the importance of the Battalion Surgeon position whose original presence on the battlefield was based on a traditional channelized model of evacuation. If trained to standard, frontline medics perform a staggering majority of what can be done non-surgically for patients at the place and time needed most. No longer is the BAS a unifying entry point for the wounded into the medical system. Instead, it is commonly and acceptably bypassed to get patients directly from point of injury to surgical centers. This leaves highly trained Battalion Surgeons isolated and underutilized at BAS resuscitation posts.

Third, BASs possess every bit of the expertise they need in the PA. The Army PA was created for the very role of battalion-level combat casualty care; he was designed for the mission. The PA performs primary care for the battalion in peacetime and trains its medics for combat. Physicians, tied to the duties of hospital and clinic-based practice in peacetime, as a rule, cannot train in combat scenarios to the level of proficiency of PAs. The model produces a uniquely qualified and ever-present BAS capability that simply cannot be equaled by specialized physicians under the PROFIS system. The PA has already gained acceptance as suitable in the wartime staffing of Field Artillery and Special Troops Battalions. No credible data exists that suggests that any value is added by deploying physicians to this custom-made entity for the Core Battalion Medical

Mission. The problem with the PA is not that he does not possess all the skills needed for frontline resuscitation but that he is not marketed as such.

Fourth, the home front mission is under duress and must be reexamined. The Army Medical Department provides excess coverage for its Soldiers down-range at the expense of leaving the home front poorly resourced. The systems costs of such actions must be weighed against the perceived benefit. With home front “mission failure” looming due to staffing shortages, it is best to analyze where physicians are underutilized and cross-level them to areas where their expertise is optimally used. A solution entailing this logic was discovered and implemented for FSTs. Similar analysis should be extended to identify imbalances in nonsurgical medicine. The maneuver BAS, with its mission firmly in the hands of the qualified PA, is one area in which abundant expertise may be better leveraged elsewhere without decrement in capability.

Fifth, a workable and appropriate solution to this problem is provided by history. The War in Vietnam created identical hardships to the ones currently experienced in the Army Medical Department but on a much wider scale. The solution proffered, that is, replacing the Battalion Surgeon with the PA, was soundly justified with rational data. For more than a decade, it was accepted by the military. The reimplementation of the Battalion Surgeon was not due to failings of the PA model. Instead, it was based on theoretical estimates of future wars. In this process, key oversights were made regarding the American way of war. Adopting lessons of Israeli wars ignored the U.S. policies of deploying non-physician medical specialists and the helicopter-heavy “rapid evacuation.” Furthermore, the end result, that is, the doubling of provider resources at battalion level is in direct opposition to the analysis of the Vietnam physicians who sought to limit rather

than increase battalion level care. The two-provider battalion capability is one that the Army, based on its own combat experience, never suggested it needed. The weaknesses in this policy went unnoticed until the current wars unmasked them to reveal the same issues as those identified in Vietnam.

Finally, as with any policy concerning the lives of Soldiers, emotional and political sentiment produces a fog through which the problem achieves complexity and inertia. It is appropriate to dissect the problem free of its non-rational ties in order to advance. By doing so, the logic of proposed solutions may be presented more clearly. Beliefs of physician superiority for the role of combat trauma resuscitation are not based on fact. Neither is the belief that PAs do not have or cannot attain expert and unparalleled knowledge in the resuscitation phase of the Core Battalion Medical Mission. An attitude of “Nothing’s Too Good” and an overreliance on symbolic gestures allows these prejudices to exist without discourse and lays the groundwork for the Army Medical Department to fall short elsewhere.

Recommendations

This thesis recommends that physicians be completely removed from the battalion level. This may be accomplished technically by leaving the 62B AOC position unmanned in battalions, thereby overturning the PROFIS concept at that level. No change is recommended regarding PROFIS positions in units and facilities above Level I. Additionally, efforts should be made to improve the marketing of the Battalion PA as a custom-designed “Expert in Combat Casualty Care.”

The proposed strategy is not a panacea for all of the current misfortunes of the Army Medical Department. It is merely a step to turn the tide. Removing physicians from

battalion-level represents a fact-supported step which: (1) appropriately balances non-surgical physician resources between the deployment and home-front pools, (2) recognizes the abilities of the Army's PAs to perform as originally designed, (3) keeps faith with specialty-trained physicians by incorporating them into systems in which their expertise is fully utilized, (4) potentially improves physician recruiting and retention by decreasing the hardships associated with deployment.

An alternative solution is a strategy similar to that offered by the surgical specialty for the staffing of its FSTs. In this concept, selected physicians would be dispatched from Combat Support Hospitals and Medical Commands to augment BASs for short periods coinciding with high-risk and offensive operations. The "control" of the physician would remain in the hands of the medical commander. This solution allows the Army to surge manpower to offensive operations but also incorporates the flexibility to "rebalance" the medical force as prolonged low-intensity conflicts emerge. Notably, this solution is not supported by the analysis presented in this thesis (which demonstrates that PA acting alone are appropriate for the Core Battalion Medical Mission). It does accept, however, the existence of situations in which particular expertise may prove beneficial. It also may be more politically palatable.

The Way Ahead

While reluctance to change may exist due to expected resistance from the supported maneuver forces, change may not necessarily be met with outcry. Maneuver commanders intuitively understand both the treasure they possess in their organic PAs and the home front problems associated with inappropriate deployment of specialists. The physician Battalion Surgeon has served with distinction since the time of Napoleon. It is

now appropriate that the role, with all of its of its historical strength and pride be passed wholly and completely to the Battalion Physician Assistant.

CHAPTER 8

LITERATURE REVIEW

The review of literature for this project included a mix of historical documents, current Army doctrine, medical journal articles, newspaper articles, magazine articles, and Internet searches. The staff of the Combined Arms Research Library (CARL) collected much of the material. Although a mix of types of documents was used in the analysis of each chapter, many chapters relied on documents from a particular source. For example, the chapter on current doctrine predominantly relied upon Army Field Manuals and Army Regulations. The chapter addressing emerging trends in battlefield medicine focused on medical journal articles. In order to fully review the current literature of pertinence to this topic, sources are presented according to chapter.

Current Doctrine

Studying current doctrine attained a picture of the landscape of medical care across the battlefield. The Army Universal Task List was a logical first choice to begin. It provides broad guidance in the delivery of care but did not provide substantial detail to be of significant use.¹³⁶ FM 4-02, *Force Health Protection in a Global Environment*, is the keystone army medical doctrine field manual.¹³⁷ This document paints in broad-brush strokes an all-encompassing overview of medical care in a combat environment. It was useful in providing a scaffold of general logic behind combat medicine. It was referenced

¹³⁶Department of the Army, Field Manual (FM) 7-15, *The Army Universal Task List* (Washington, DC: Government Printing Office, 2009).

¹³⁷FM 4-02.

frequently to ensure that the doctrine presented to the reader was accurate to the Army's intent. Army Field Manual 4-02.4, *Medical Platoon Leader's Handbook*, provided specific knowledge of the Army's concept of Battalion Surgeon implementation. It provides guidance on the operation of the Battalion Aid Station and the duties of its accompanying staff (including the PA and Battalion Surgeon).¹³⁸ Unfortunately, the current manual includes contradictory statements and is difficult to navigate due to its attempts to bridge the gap between old and new organizational structures in the transforming Army. Other sources of doctrine of use in describing the current environment included FM 4-02.6, *The Medical Company*,¹³⁹ and AR 601-142, *Army Medical Department Professional Filler System*.¹⁴⁰ The latter document suffers from conformity to a particular style of writing that makes it difficult to read. Even so, it was from this document that critical facts such as the types of physicians dispatched to the battalion were culled.

Emerging Trends

A significant portion of the thesis was dedicated to demonstrating the conditions that have emerged within the past 20 years that improved mortality on the battlefield. This literature was important in showing that: (1) the Battalion Surgeon was not likely a significant contributor to improvement, and (2) innovation in thought, practice,

¹³⁸FM 4-02.4.

¹³⁹Department of the Army, Field Manual (FM) 4-02.6, *The Medical Company* (Washington, DC: Government Printing Office, 2002).

¹⁴⁰AR 601-14.

technology, and delivery of battlefield aid have largely made the Battalion Surgeon irrelevant. This chapter relied heavily upon medical journal articles for its content.

Two articles, considered landmark, contain much of the fundamental theory behind tactical combat casualty care. In his 1984 article, “The Causes of Death in Conventional Land Warfare: Implications for Combat Casualty Care Research,” Bellamy determined that the immediate care delivered in the seconds and minutes after injury had more life-saving impact than all care that followed.¹⁴¹ By presenting a key data set in the form of retainable algorithms, Butler et al. proposed that combat medics manage critical resuscitative care. The 1996 Butler article entitled “Tactical Combat Casualty Care (TCCC) in Special Operations”¹⁴² was revolutionary and continues to provide foundational knowledge on TCCC. The importance of skilled first response was a factor in the creation of the modern combat medic, the 91W. The 2001 article, “Medic for the Millennium: The U.S. Army 91W Health Care Specialist,”¹⁴³ demonstrates the introduction of the TCCC knowledge set into training programs for the conventional medic. Data on TCCC just-in-time training initiatives are available in Butler and Holcomb’s article, “The Tactical Combat Casualty Care Transition Initiative.”¹⁴⁴ Fast far-forward care is so important that non-medical combatants are increasingly trained in limited battlefield first aid through the 40 hour Combat Life Savers Course. This course

¹⁴¹Bellamy, The Causes of Death in Conventional Land Warfare: Implications for Combat Casualty Care Research.

¹⁴²Butler, Hagmann, and Butler.

¹⁴³De Lorenzo, *Medic for the Millennium*.

¹⁴⁴Butler and Holcomb, 33-7.

did not receive significant attention in the thesis but should be thought of as a critical part of front line medical care. Additional information is available in the article, “The Role of Combat Lifesavers in Counterinsurgency Operations.”¹⁴⁵

It is interesting to note that several articles are available which list some feature of medic-applied TCCC as being a critical innovation in reducing battlefield deaths. These include, “US military revamps combat medic training and care,”¹⁴⁶ “A Note on American Combat Mortality in Iraq,”¹⁴⁷ “Trauma System Development in a Theater of War: Experiences From Operation Iraqi Freedom and Operation Enduring Freedom,”¹⁴⁸ “Now and Then: Combat Casualty Care Policies for Operation Iraqi Freedom and Operation Enduring Freedom Compared With Those of Vietnam,”¹⁴⁹ and “The 2004 Fitts Lecture: Current Perspective on Combat Casualty Care.”¹⁵⁰

¹⁴⁵Bradley W. Hudson, Karen L. Moody, and Robert Melton, “The Role of Combat Lifesavers in Counterinsurgency Operations,” *Infantry* (July-August 2008): 48-51.

¹⁴⁶Michael McCarthy, “US Military Revamps Combat Medic Training and Care,” *The Lancet* 361 (8 February 2003): 494-5.

¹⁴⁷Bellamy, *A Note On American Combat Mortality in Iraq*.

¹⁴⁸Brian J. Eastridge et al., “Trauma System Development in a Theater of War: Experiences From Operation Iraqi Freedom and Operation Enduring Freedom,” *The Journal of Trauma* 61 (December 2006): 1366-73.

¹⁴⁹Paul R. Cordts, Laura A. Brosch, and John B. Holcomb, “Now and Then: Combat Casualty Care Policies for Operation Iraqi Freedom and Operation Enduring Freedom Compared With Those of Vietnam,” *The Journal of Trauma* 64 (February 2008): 514-20.

¹⁵⁰John B. Holcomb, “The 2004 Fitts Lecture: Current Perspective on Combat Casualty Care,” *Journal of Trauma* 59 (October 2005): 990-1002.

In addition to non-physician battlefield medical care, the high availability of surgical resources in combat theaters has changed medical care on the modern battlefield. Field Manual 4-02.25, “Employment of Forward Surgical Teams” is the doctrinal manual on Forward Surgical Teams.¹⁵¹ A good discussion on the use and availability of Forward Surgical Teams in Iraq is available in the “2004 Fitts Lecture” article.¹⁵² The USAWC Strategy Research Project (SRP) entitled, “Ensuring Good Medicine in Bad Places: Utilization of Forward Surgical Teams on the Battlefield” provides an excellent analysis of Forward Surgical Team use and misuse.¹⁵³ The thesis is important because it describes and names the “Just in Case” mentality, which is presented as an obstacle to change in the Battalion Surgeon paradigm. The thesis essentially provides a surgical parallel to the Battalion Surgeon problem. The document is a good resource to evaluate the implementation of a solution to a similar problem.

Physician Assistant Capabilities

A good background article on PAs in the military is entitled, “The Military Physician Assistant.”¹⁵⁴ While dated, it presents PA core competencies that establish the remarkable utility of the position. The article also briefly describes the origin of PAs in the military in the early 1970s. Likewise irreplaceable as a background article, “Federally Employed Physician Assistants,” presents much more updated data on PAs in the

¹⁵¹Department of the Army, Field Manual (FM) 4-02.25, *Employment of Forward Surgical Teams* (Washington, DC: Government Printing Office, 2003).

¹⁵²Holcomb.

¹⁵³Thomas.

¹⁵⁴Hooker, *The Military Physician Assistant*.

American government.¹⁵⁵ Historical documents such as The Surgeon General’s Annual Reports from 1971¹⁵⁶ and 1972¹⁵⁷ offer primary evidence as to the resourcing shortages of the post-Vietnam Army that created the necessity for the creation of non-physician extenders. Major General Spurgeon Neel’s detailed review of the medical support for the Vietnam War is, without a doubt, the most comprehensive source available to understand the original intent of the PA position within the Army.¹⁵⁸ This work should be a starting point for any scholar attempting to understand the birth and evolution of the Army PA.

A cornerstone of this thesis was a discussion of the modern-day PA’s ability to duplicate the core skills of the Battalion Surgeon. Few articles dedicated to the unique product represented by the modern-day Army PAs are available. This lack of data highlights institutional problems in “marketing” the asset. The only Army document that concentrates solely on the PA, AR 601-20, “The Interservice Physician Assistant Training Program,”¹⁵⁹ is essentially a guide for interested applicants on the applications process. Due to the dearth of good analytical articles on military PAs, secondary sources such as the training curriculum, anecdotal data, and indirect data were referenced to

¹⁵⁵Hooker, Federally Employed Physician Assistants.

¹⁵⁶Department of the Army, U.S. Army Medical Department, Office of the Surgeon General, Historical Unit, *Annual Report--The Surgeon General United States Army* (Washington, DC: Government Printing Office, 1971), 100.

¹⁵⁷Department of the Army, *Annual Report--The Surgeon General United States Army, 1972*.

¹⁵⁸Neel.

¹⁵⁹Department of the Army, Army Regulation (AR) 601-20, *The Interservice Physician Assistant Training Program* (Washington, DC: Government Printing Office, October 2000).

demonstrate PA capability. The Interservice Physician Assistant Program (IPAP) curriculum is available on the Internet.¹⁶⁰ A 2008 *Army Times* article is available which provides statistics regarding contemporary usage and training of Army PAs.¹⁶¹ Anecdotal data on the value of Army PAs is found in the following articles: “Survey of U.S. Army Commanders’ Experiences with Brigade/Battalion Surgeons at Fort Hood, Texas,”¹⁶² “The Seven P’s in Battalion Level Combat Health Support in the Military Operations in Urban Terrain Environment,¹⁶³ and “Out-of-Hospital Combat Casualty Care in the Current War in Iraq.¹⁶⁴ Only one magazine article was found that discussed the importance of PAs in combat.¹⁶⁵

As mentioned in the thesis, a rigorously controlled head-to-head trial of PA versus Battalion Surgeon would present very powerful information to the central arguments in this thesis. The discussed Israeli study, “Physician versus Paramedic in the Setting of Ground Forces Operations: Are They Interchangeable?” is the only available literature on this key topic.¹⁶⁶ The article comes very close to answering the question directly and

¹⁶⁰The Interservice Physician Assistant Program Site, “Program of Instruction,” <http://www.samhouston.army.mil/ipap/program/plan%20of%20Instruction.htm> (accessed 16 April 2009).

¹⁶¹Kennedy.

¹⁶²Hughes, Miller, Farr, and Hughes.

¹⁶³Earwood and Brooks.

¹⁶⁴Gerhardt et al.

¹⁶⁵Kennedy.

¹⁶⁶Levy et al.

should be analyzed by policy-makers dealing with the two medical entities.

Unfortunately, the article does not pertain to the specifics of the American Army.

Proof of acceptance of PAs by the civilian world was important in order to show that the PA model is anything but experimental. Articles addressing this topic are available in mainstream medical journal articles. The 2003 New England Journal of Medicine article entitled, “Trends in Care by Nonphysician Clinicians in the United States”¹⁶⁷ should be a starting point. That care by “off-site” PAs is not only appropriate, but acceptable and legal is supported by the article, “Roles of Nonphysician Clinicians as Autonomous Providers of Patient Care.”¹⁶⁸ Finally, a medical journal article is available that demonstrates that military PAs score higher than their civilian counterparts on licensing exams.¹⁶⁹ This work is useful to silence critics who may think that the military PA is somehow inferior to the civilian product.

Problems with Physician Deployment

Problems of Physician Deployment are frequently highlighted first by the served population. As a result, the majority of literature documenting the problems with deployment was found in local and national newspaper and magazine articles. The following articles are a representative sample notable for their clear linkage of deteriorating home front care to increased physician deployments: “Too Many Docs,

¹⁶⁷Druss et al.

¹⁶⁸Cooper et al.

¹⁶⁹Cody et al.

Nurses Deployed, Report Says,”¹⁷⁰ “Shortages, Turnover Afflict Military Health Care,”¹⁷¹ “Army Hospital Recovering from Doctor Shortage,”¹⁷² and “Military MD Shortage at Home.”¹⁷³ Other articles detailing difficulties in access to care in Army medicine are available but do not draw conclusions based on the tempo of physician deployment.¹⁷⁴

In this chapter, it was important to describe the quantitative result of the proposal. This data was crucial to color the impact of a change in policy. In terms of raw numbers and percentages, how many physicians would remain at home if the Battalion Surgeon position were not filled? No answer was found in literature searches. The data presented was culled from a PROFIS Deployment System (PDS) spreadsheet used to track PROFIS physicians in real-time.¹⁷⁵ In order to present the data in an unclassified manner, only general trends were identified. However, future policy analysis should rely heavily on current and past PDS data sets. Open source information on the origin of the PROFIS dataset is present in the thesis entitled, “A Policy Analysis of U.S. Army Professional

¹⁷⁰Lubold.

¹⁷¹Laura Ungar, “Shortages, Turnover Afflict Military Health Care,” *Courier-Journal*, 23 December 2007, <http://www.courier-journal.com/apps/pbcs.dll/article?AID=/20071223/NEWS01/71223048> (accessed 20 February 2009).

¹⁷²Harder.

¹⁷³Noah Shachtman, “Military MD Shortage at Home,” *Wired Magazine*, http://blog.wired.com/defense/2007/03/like_the_washin.html (accessed 13 May 2009).

¹⁷⁴Scott Blake, “Military Medical Centers Need Civilian Caregivers,” *Armytimes.com*, http://www.armytimes.com/careers/second_careers/military_medical_centers_061208/ (accessed 18 March 2009).

¹⁷⁵Gin.

Filler System (PROFIS) Sourcing Management At the Regional Medical Command Level in Support of an Expeditionary Army at War.”¹⁷⁶ This paper describes the system in depth and provides a rationale for its creation. It also articulates, from a primary Army medical source at the highest medical command level, the impending crises created by heavy use of PROFIS physician deployment.

Physician annoyance due to inappropriate utilization at the battalion level is widespread in conversation yet relatively lacking in the medical literature. Documentation is available on the Army Medical Department’s “Center for Lessons Learned” website. However, this website is classified as “For Official Use Only.” For the purposes of this thesis, After Action Report comments were used to identify physicians who clearly had reflected on the issue of battalion level staffing. These doctors were then interviewed verbally to obtain unclassified opinion. Discontent about the parallel problem of over-deployment in the Army surgical specialty was available in the thesis, “Ensuring Good Medicine in Bad Places: Utilization of Forward Surgical Teams on the Battlefield.”¹⁷⁷ Mentioned earlier, this thesis was referenced frequently in the creation of the current one as it represented a model of a different population attacking a nearly identical issue.

Official concern about the long-term effects of the current deployment schedule is available in a *Stars and Stripes* article entitled, “Looming Doctor Shortage.”¹⁷⁸ Data on

¹⁷⁶Mon, 20.

¹⁷⁷Thomas.

¹⁷⁸Tom Philpott, “Surgeon General: Looming Doctor Shortage,” *The Stars and Stripes*, 13 July 2006, <http://www.military.com/features/0,15240,105400,00.html> (accessed 20 February 2009).

physician retention problems is additionally available in that article.¹⁷⁹ A PowerPoint slide show is available on line that demonstrates graphically the ongoing inability of the Army to meet physician end strength goals.¹⁸⁰

Historical Precedent

The “Historical Precedent” chapter relied almost exclusively on two historical references. While the chapter drew some conclusions based on analysis, its goal was to show that the current role of the PA in the Army represents a subtle but important change from that of the position’s original intention. The definitive reference on the original “raison d’être” of the PA is the aforementioned complete detailed account of medical activities in Vietnam written by Major General Spurgeon Neel.¹⁸¹ That the Office of the Surgeon General provided the PA to the Army in 1973 as a Battalion Surgeon replacement in response to problems identical to contemporary ones was important to the content of this thesis.

Equally as important was an analysis of the Battalion Surgeon re-emergence in 1984. The 1985 thesis entitled, “The Battalion Surgeon: A Background Study and Analysis of His Military Training” is a first-rate source of detail for this area of study.¹⁸² Its author, Major Frederick E. Gerber, dedicates chapters to the topic of the reimplementation of the position. The Gerber thesis is a secondary source. There were,

¹⁷⁹Philpott, *Surgeon General: Looming Doctor Shortage*.

¹⁸⁰Barthel.

¹⁸¹Neel.

¹⁸²Gerber.

however, limitations to acquiring the primary resources that he referenced. Several were no longer available. Others were unclassified yet limited in distribution to the U.S. Government and authorized contractors. Even so, direct quotations from this material were referenced in the Gerber thesis. Since the material was already available as an open-source, it was directly quoted from the Gerber work (and not from the primary source). To date, the Combined Arms Research Library has not been able to locate any other primary sources. The Office of the Surgeon General Historical department could do little better, but did provide, in memo form, the Army Medical Department's response to Army efforts at modular change.¹⁸³

Obstacles to Change

Discussion of the “Nothing’s Too Good” mentality relied on analysis of behavior rather than literature. The phrase was discovered in an article in which it was used to advocate robust front-line care despite a lack of evidence-based support.¹⁸⁴ Internet searches using the phrase as a keyword revealed sparse usage. While no article was found that specifically addressed non-rational medical decision-making processes, links were found in several. Colonel Richard Thomas described the “Just in Case” phenomenon in his paper on Forward Surgical Teams.¹⁸⁵ The Israeli article, “Physician versus Paramedic in the Setting of Ground Forces Operations: Are They Interchangeable?” described

¹⁸³Agosta.

¹⁸⁴Suter.

¹⁸⁵Thomas.

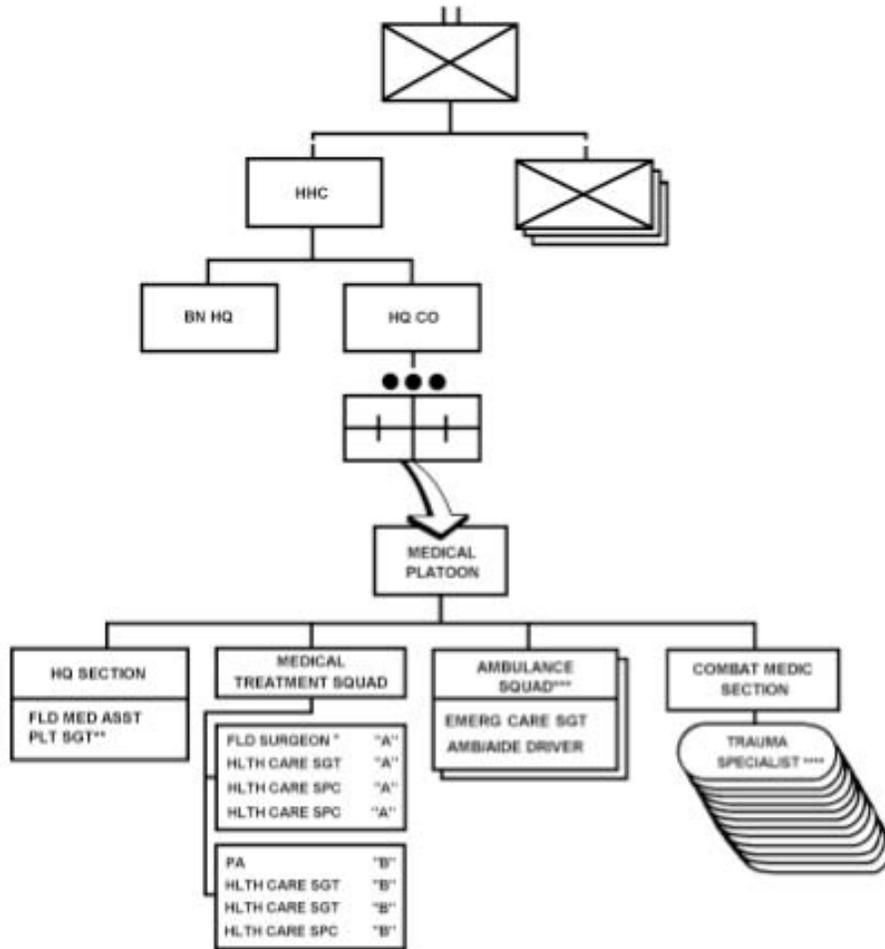
morale benefits secondary to physician presence at the small unit level.¹⁸⁶ Finally, a *Stars and Stripes* article, entitled “Military Update: Fewer War Wounds Suffered in Iraq are Fatal,” alluded to physician reluctance to release medical skill sets to other providers based upon non-evidenced based concern.¹⁸⁷ The subject matter of this final chapter described a stream of non-rational or emotional logic that existed below the surface of explanations of medical strategy, operations, or procedures. It was hypothesis producing and possibly the area of most fertile future research.

¹⁸⁶Levy et al.

¹⁸⁷Tom Philpott, *Military Update: Fewer War Wounds Suffered in Iraq are Fatal*.

APPENDIX A

MANEUVER BATTALION MEDICAL PLATOON ORGANIZATION

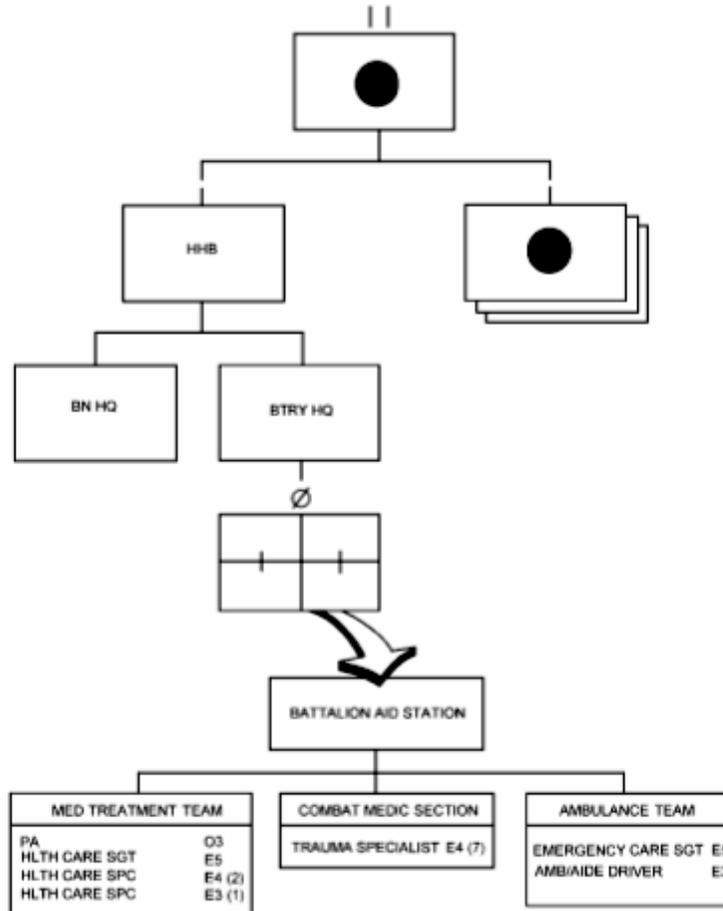


- * ALSO BATTALION SURGEON
- ** ALSO SERVES AS AMBULANCE SECTION SGT
- *** 4 AMBULANCE TEAMS
- **** AIRBORNE BATTALIONS HAVE 12 TRAUMA SPECIALISTS ASSIGNED TO THE COMBAT MEDIC SECTION AND AIR ASSAULT BATTALIONS HAVE 10 TRAUMA SPECIALISTS ASSIGNED TO THE COMBAT MEDIC SECTION
- "A" ALFA TREATMENT TEAM
- "B" BRAVO TREATMENT TEAM

Source: Department of the Army, Field Manual (FM) 4-02.4, *Medical Platoon Leader's Handbook* (Washington, DC: Government Printing Office, 2001), F-3.

APPENDIX B

FIELD ARTILLERY BATTALION MEDICAL PLATOON ORGANIZATION



Source: Department of the Army, Field Manual (FM) 4-02.4, *Medical Platoon Leader's Handbook* (Washington, DC: Government Printing Office, 2001), 2-44.

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