Chapter 9

MILITARY MEDICINE IN THE OPERATIONAL AND STRATEGIC CONTEXT

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"You know you never defeated us on the battlefield," said the American colonel.
The North Vietnamese colonel pondered this remark a moment.
"That may be so," he replied, "But it's also irrelevant."
—Conversation in Hanoi, April 1975[1]

INTRODUCTION

With this poignant yet profound exchange between two former enemies during the negotiations to end the Vietnam War, the author, Harry Summers Jr, a war-tested professional soldier, summarized a decade-long conflict that took the lives of over 50,000 Americans as well as countless Vietnamese, Laotian, and Cambodian fighters and civilians, and plunged the United States into a generation of soul-searching and political discord.[1] It captures the essence of what one of the seminal writers on the nature of war, the Prussian military theorist Carl Philipp Gottfried von Clausewitz, wrote: "War is merely a continuation of policy [or politics] by other means."[2,3(I-1–I-4)] The American and allied military in the Vietnam War were superior in almost every regard to their North Vietnamese regulars and Viet Cong guerilla counterparts. But this proved to be inadequate as they failed to break the will of the North Vietnamese to fight while losing a critical social and political struggle at home, which resulted in the loss of the American people's will to continue the war. In sum, while the field engagements of the American military were almost uniformly successful, the larger US strategy, needed to win the war of wills, was not.

As a young medical student in the early 1970s struggling to learn the details of human physiology and anatomy, and to apply my nascent diagnostic acumen and newfound respect for therapeutics to human disease, I had a similar "ah-ha" moment late one night in our university hospital. Seeking a place where I could read and reflect, I took a little-used elevator to a top, otherwise vacant floor of the hospital. There I found one of the very large open bay wards with over 50 patient beds that many of the older teaching hospitals featured at the time. Spread across the ward was an entire floor of empty iron lungs parked side-by-side and end-to-end, a battalion of ghostly shiny metal and glass pneumatic tubes large enough to accommodate an adult patient—empty and silent. Having seen these in pictures (Figure 9-1) or in hospitals when I was much younger, I recognized them as life-support devices for patients who suffered from paralysis of the diaphragm and respiratory muscles.

I asked one of my professors the next day on clinical teaching rounds what they were and why they were stored upstairs. He told me that they were in preparation for polio patients for whom respiratory assistance was life-saving. "Why," I asked, "were they empty and the ward vacant?"

"Because the Salk and Sabin polio vaccines were successful," he answered.

Like Colonel Summers on a different kind of battlefield, it was among my first insights into the distinction between tactics and strategy in human medicine. We won the war against polio because we elected to invest in a strategy of prevention and not simply be satisfied with the tactical battle of treating those afflicted with this crippling viral infection. Since this early insight, I have encountered many other medical and military medical decisions that have had a strategic impact on the practice of medicine both in uniform and in civilian life. Among these were Major Jonathan Letterman's organization of echeloned field medical care during the American Civil War; Army Surgeon General George Miller Sternberg's decision to send Major Walter Reed to Cuba to identify the vector of yellow fever after the Spanish-American War; and more recently, the decision of Air Force surgeons general P.K. Carlton and Bruce Green to invest in sophisticated intensive care

Figure 9-1. Sergeant Clarence Stewart of the 249th General Hospital demonstrates an iron lung used to treat poliomyelitis to many interested visitors at the Armed Forces Day celebration, Denver, CO, 1960.
Reproduced from: National Library of Medicine (http://resource.nlm.nih.gov/101442594).

technology in inter-theater air evacuation. These and other important decisions by military medical leaders changed the complexion of care and survival of service members and civilians in war and peace.

Elsewhere in this textbook (Chapter 3, Officership and the Profession of Arms in the 21st Century), Meese and Wilson discuss the dual world in which military and uniformed medical officers exist: the world of medicine and the professional world of the military or uniformed officer. Additionally, professional uniformed officers must function in a technical world of scientific advances and applications of medical practice while serving in a parallel context of analysis and decision-making related to the impacts of these practices on a hierarchy of social and organizational complexity. Several examples above describe how protecting the fighting force from health threats, building the physical and emotional dimensions of resilience and restoration of health, and maintaining wellness and physical fitness are vital elements of ensuring a military force capable of defending the nation and fighting and winning its wars. The medical officer operates simultaneously in three spheres or contexts: a ***tactical*** context, in which the health of small units is protected and medical care is delivered to warriors; an ***operational*** context, in which battle and theater-level health and healthcare issues must be fine-tuned to achieve advantages for mission success; and a ***strategic*** sphere, in which sustainment and restoration of the joint fighting force, care of the larger military family, and nation-building from the standpoint of public health and medical care delivery may impact the national security strategy (NSS) and even national and global health.[3(I-7)] The medical officer must understand his or her role and impact in each of these dimensions. Most of this book deals with tactical issues, but in this chapter, the concepts of the operational and strategic art as they apply to military medicine are introduced.

As a military and uniformed medical officer, your career will be filled with moments similar to mine, when you encounter the interfaces among the different domains of planning and execution of your duties. While a medical officer's roles may be consumed with the day-to-day myriad events that characterize the prevention, mitigation, and management of diseases, injuries, and combat wounds, they must understand how their work and the activities of their team and organization—clinic, operational medical unit, hospital, research laboratory, or other—are ideally derivative of and support a larger operational and strategic scheme. To best gain this understanding, it is necessary to step back and consider the role the US military plays in national security and defense, and how this role is articulated by the national command authority.

THE FOUR INSTRUMENTS OF NATIONAL POWER

Many members of the uniformed services, especially those in the armed forces, are surprised to learn that the employment of the nation's military is but one of four different strategic tools by which the United States attends to its national security on the world stage. Often, the exercise of military power is the least desirable and least effective of them. The four instruments of national power form an easily remembered mnemonic, "D-I-M-E"[3(I-11)]: diplomatic, informational, military, and economic.

The nation's ***diplomatic*** efforts are officially exercised through the authority of Congress to regulate diplomatic relations between and among nations and largely carried out through the Department of State or special emissaries of the legislative and executive branches of government. Diplomatic exchanges constitute a continuous form of communications that ensure the clarification of national intent behind specific actions, the creation of mutual understanding for bilateral or multilateral benefit, and expressions of displeasure or concern about events or actions taken by others. Diplomatic exchanges often take place even when the United States or other parties do not have formal diplomatic relations; these occur through intermediaries in the diplomatic world or other ad hoc devices.

Information has always represented an essential method of influencing international relations and events. With the rise of the Internet, social media, sophisticated technological advances in intelligence collection, and nearly universal access to electronic media, the informational instrument of national power has taken on added importance and complexity. Virtually no major development of importance in the security of the United States occurs without an effort to influence the domestic and international public's perception of these events, as well as to sway the opinions of world leaders and powerful influencers. These occur through acts of commission—such as releasing heretofore privileged or classified information more widely—or omission—such as restricting this information. The emergence of deliberate and coordinated assailants or simply mischievous parties bent on disrupting activities, divulging information, or creating "alternate realities" to deceive or create instability and confusion have raised the stakes for protecting sources of information and the critical databases and tools for free and easy information exchange.

The War Powers Act of 1973[4] permits the president to exercise certain military actions to protect and defend the nation against foreign enemies. But the exercise of the ***military*** instrument of national power has constitutionally resided principally in Congress, which, in any event, can leverage the power of the purse to limit even presidential directives to employ the nation's military. The most favorable interpretation of this interplay between the legislative and executive branches is an exercise of checks and balances. That is, it is a "dialogue" among the branches of the federal government intended to promote US military intervention as truly reflecting "the will of the people"—as is so pointedly demonstrated in the opening vignette. It also encourages the greatest degree of coordination of resources, expertise, and experience among different federal executive departments and agencies (the "interagency") in conducting the four instruments of national power represented by D-I-M-E.

Many of the most effective tools for promoting US national interests are ***economic*** in nature. Tariffs on trading with those the United States intends to influence or punish—trade embargoes, confiscation of the properties of these nations or their citizens, limitations on how US citizens can invest in these nations, withholding foreign aid, and other financial instruments—are among the oldest and most often employed approaches used in international affairs. Conversely, favorable relations can be encouraged between and among nations that favor one party in an international dispute at the expense of the other by exercising the opposite of these measures. Both approaches—punishing and rewarding—have been undertaken throughout American history with great success. The emergence of security threats arising from non-state actors such as transnational criminal elements and terrorist organizations have made diplomatic and informational efforts more difficult. One of the more recently applied tools in the struggle against these enemies is to find and choke off funding for their activities.

It should be evident from this discussion with these and other examples that the NSS of the United States extends beyond the isolated use of its military. In fact, the NSS drives the cascading of a strategic discussion and the articulation of goals and objectives from all elements of the government—departments and agencies alike—including but not limited to the Departments of State, Treasury, Commerce, Homeland Security, Defense, Justice, Health and Human Services, Veterans Affairs, and Energy; the multifaceted 17-member US intelligence community; and all other offices that can make important contributions within the D-I-M-E framework. The role of the US military is subordinate to a larger scale effort to employ a "whole of government approach" for a unified strategy in advancing the national interests of the nation. Within the Department of Defense (DoD), this is outlined in the National Defense Strategy (NDS) and National Military Strategy (NMS), from which all subordinate DoD agencies, departments, and commands derive their guidance in support of the NSS (see also Chapter 7, The National Security Structure).

ROLE OF MILITARY MEDICINE IN NATIONAL DEFENSE

The same relationship exists with respect to the role of military medicine in supporting the overarching military strategy found in the NMS and reflected in derivative guidance provided by the military services, the Defense Health Agency, the assistant secretary of defense for health affairs, and the secretary of health and human services (for members of the US Public Health Service). Advancing health within the military services, and the wider American public through the Public Health Service, and caring for illnesses, injuries, and combat wounds suffered by beneficiaries of military healthcare are not ends in themselves. To be clear, these are the principal focuses of the uniformed services health and healthcare community. But these efforts serve a greater good in maintaining the readiness of members of the armed services, and even the wider American public, to serve in defense of the nation and to keep the nation strong. The health and well-being of the uniformed service member (and by extension, the US population) is the center of gravity of national strength and the readiness of the force to defend the nation.

Some within the uniformed health professions find this "dual agency" an ethical and moral challenge. This chapter is not intended to fully explore this challenge (see Chapter 3, Officership and the Profession of Arms in the 21st Century, and Chapter 5, Military Law and Ethics, for a more complete discussion). Suffice it to say that a potential for tension may arise between the obligation to care for the individual military patient and the duty to ensure the mission of the armed services to fight and defend the country. (This tension is not unique to the military physician. Consider, for example, the conflict between patient privacy and the legal obligation to report sexually transmitted diseases to the public health authorities or a battered spouse to the legal authorities.) But in the main, these two roles and codes of professional ethics—that of the caregiver physician and that of the military medical officer—are in alignment and without conflict. Optimally caring for

the service member is, in fact, ensuring the capability of the military unit to succeed in its mission, whether it is in preventing disease, injury, and combat wounds; restoring health; or ensuring full recovery and rehabilitation. Ensuring the optimal restoration of health and function in the most seriously ill, injured, or combat wounded warrior is critical to retaining the full trust and confidence of combatants that the nation and its military respect their sacrifices and will not abandon them in times of need.

DIMENSIONS OF COMPLEXITY IN LEADER ENGAGEMENT AND ORGANIZATION

Up to this point, this chapter has discussed the notion of "strategy" in depth and has used this term liberally. But many do not recognize the distinction between and among the tiers or dimensions of complexity and focus within organizations that engage leaders and unit members: strategic, operational, and tactical. Although "strategy" was often inferred from the classical texts of such conflicts as Caesar's Gallic Wars and the Second Punic War, and it has certainly inspired and informed more recent military strategists, its separation into political and military elements and the exposition of an overarching intent for these conflicts, as distinct from more practical activities involved in the waging of individual campaigns and battles (operational and tactical), is not clear. More explicit discussions of strategy emerged in the 19th century among philosophers, political scientists, and military thinkers, such as the previously mentioned Prussian theorist, von Clausewitz. The evolution and overlap among these dimensions have been changing with the advent of late 20th and early 21st century technology, including weapons and communications.[5] (The Soviets introduced operational art in the 1920s, although the Western European and NATO allies used grand tactics until 1982; both communities were working with the same issues raised by span of control and communications.) In the simplest scheme, these can be considered as vertically arrayed one above the other, from the highest and most complex dimension that addresses key national goals to the lowest and smallest events and issues:

- **Strategic**. Fundamental, overarching themes at the heart of the military medical mission, the DoD mission, and by extension, the national defense. Examples:
  - Force health protection via vaccines, preventive mental health protocols, and food and water policies.
  - Service member accession and retention health standards.
  - Policies governing the standardization of the continuum of battlefield casualty care (Tactical Combat Casualty Care) and recovery from the point of injury to rehabilitation in DoD and Veterans Affairs medical facilities (these set the stage for clinical, administrative, and business practice guidelines at the operational and tactical levels.)
  - The impact of military and uniformed health policies and healthcare practices on national and global health and healthcare organization, practice, and metrics.
- **Operational**. Issues that require planning and coordinated execution at the larger corporate (ie, DoD, service) or major command level. Examples:
  - Harmonizing and aligning theater-level immunization and prophylactic medication policies among the services.
  - Adoption of standardized blood products protocols across in-theater medical treatment facilities.
  - Coordinated clinical, administrative, and business practice guidelines across service camps, posts, stations, and bases.
  - Theater patient holding and evacuation policies.
- **Tactical**. Practical, local issues or processes that address the needs of individual service members and build the basis for operational and strategic success. Examples:
  - Details of the administration of individual vaccines and patient care at the aid station, clinic, hospital, or deployable medical facility level.
  - Local adjustments of clinical practice guidelines to accommodate variations in resources, patient flow, provider availability, evacuation policies, etc.
  - Execution of field sanitation and food and water safety standards at the small unit level (eg, hand washing, latrine placement, water purification steps).

While the appropriate focus of the individual student and trainee is on the many details of basic science and applied clinical science that will lead to their service as well-qualified, safe, and knowledgeable practitioners, it should be recognized that these concerns are principally at the tactical level. The ideal goal of healthcare provider education is to provide every physician, nurse, and allied healthcare practitioner and specialist with the skills needed to conduct optimal

health promotion, disease and injury prevention, and healthcare at the practitioner-patient interface (the tactical level). No degree of higher order understanding of their organizational role can replace the achievement of success patient by patient.

However, in a larger context, the relevance of the uniformed medical and public health officer ultimately lies in their support of an operational plan that is inextricably linked to the strategic goals of the combined military and coalition force. These military goals, as discussed above, in turn support an even grander scheme of support of the NSS through D-I-M-E. Just as every soldier engaged in direct combat, every airman in support of air operations, every sailor ensuring the continuous operation of a naval vessel, and every Marine trained to conduct amphibious landings cannot succeed alone in achieving the larger mission to fight and win the nation's wars, no one practitioner alone can ensure the overarching goals of force health protection, or maintaining the fighting strength. These require the coordinated and synchronized operational actions of a wide array of tactical events and people whose combined behaviors support the strategic goals of military and federal medicine.

"THE STRATEGIC CORPORAL"

Having said this, and having aligned the strategic, operational, and tactical levels one above the other with each supporting the higher level and guided—ideally—by the strategic goals at the top level, it is increasingly clear that crisp separations of one level from the other are not always possible. As forecast by Jablonsky's "revolution in military affairs"[5] and dramatically depicted by former commandant of the Marine Corps, General Charles C. Krulak,[6] the complexity of modern armed conflict, the impact of technology, and the omnipresence of communications with the outside world through cell phones and the media has led to the "strategic corporal." That is to say, the tactical has begun to bleed or overlap in increasingly more important ways into the higher operational and

Figure 9-2. Army combat medic Specialist Billie Grimes, chairman of the Joint Chiefs of Staff General Richard Myers (US Air Force), and Army surgeon general Lieutenant General Kevin Kiley proudly display the cover of a national news magazine featuring Specialist Grimes and her comrades during Operation Iraqi Freedom in 2003. This is an example of the "strategic corporal" phenomenon in which the actions of medical personnel and events at the tactical level have strategic impact and implications. (Cover image and full story available at: http://archive.defense.gov/news/newsarticle.aspx?id=27583.)

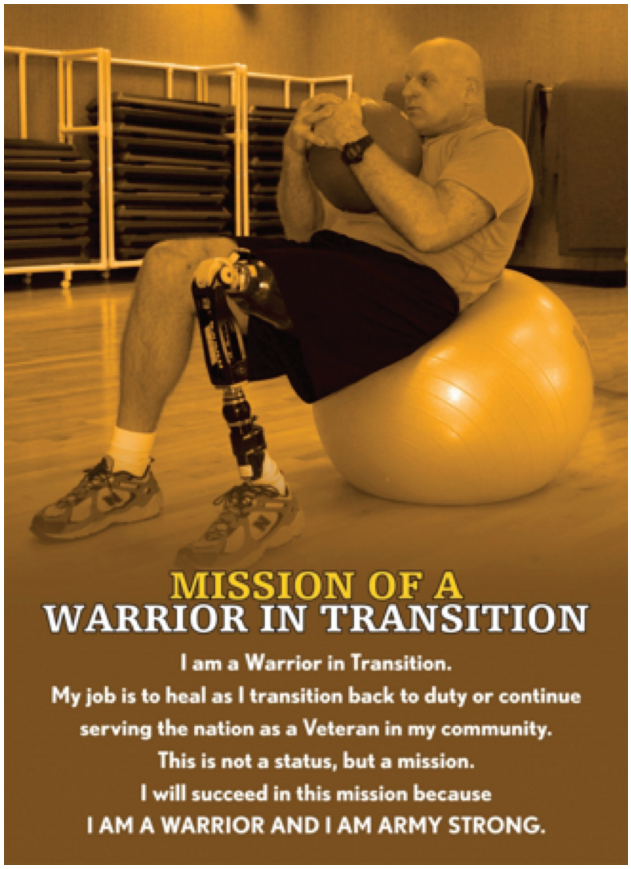

Figure 9-3. Sergeant Major Brent Jurgersen, US Army, senior enlisted advisory to the US Army Wounded Warrior (AW2) program, 2007–2009, leading by example as a twice-wounded recovering soldier.
Reproduced from: *Fort Cason Mountaineer*, January 29, 2009.

strategic levels, sometimes profoundly enhancing or preventing the achievement of strategic goals.

The improvement or maintenance of health and the provision of healthcare play a critical role in this phenomenon. Human health and well-being resonates strongly with the American public and global audiences. Measures to secure these aims or to demonstrate military medicine's resolve to act ethically, professionally, and with the highest standards of quality have great influence on the perception of the public about who we are as a US military and federal health force. These public audiences are major stakeholders in determining both national security interests and the degree to which these interests can be advanced. As a consequence, the actions—or inactions—of uniformed healthcare providers in performing their duties can have a dramatic impact on the success of the larger military mission and even interagency effort. Figures 9-2 through 9-4 illustrate some examples of "strategic corporals" in recent military medical operations. Each represents a strategic message about the contribution of the military medical community through the execution of their tactical duties.

Figure 9-4. A combat medic in Afghanistan examining a child in a humanitarian operation to improve host nation public health. US Army Specialist Joe Kunsch performs medical checks on village children during a combat patrol in Khowst province, Afghanistan, January 25, 2012. Kunsch is a medic assigned to 2nd Battalion, 377th Parachute Field Artillery Regiment.
Reproduced from: https://www.defense.gov/Photos/Essay-View/CollectionID/9224/.

SUMMARY AND CONCLUSIONS

On September 17, 1862, an event occurred that changed the course of American history and was pivotal to the development of modern military and uniformed medicine and US public health (this conclusion is inspired by the comments of Dale Smith, PhD, leading the Uniformed Services University of the Health Sciences annual terrain walk at Antietam National Battlefield, 2012–2017). At the small western Maryland town of Sharpsburg near Antietam Creek, Union and Confederate forces clashed in a battle with the ignominious distinction of creating the largest number of casualties in a single day of armed conflict in American history—over 23,000 wounded or dead federal and Southern soldiers. The military surgeon serving as the medical director of the Army of the Potomac in that battle (Figure 9-5), Major Jonathan Letterman, was a battle-tested, experienced military medical officer with over a decade of practice in the Indian Wars, as well as on earlier Civil War battlefields.[7] In the few months following his appointment as the senior medical officer for his command, he had worked diligently to devise a system of evacuation teams far forward on the battlefield with evacuation by horse-drawn ambulances to larger makeshift facilities in the rear. Antietam was his first opportunity to test his system; the battles of Fredericksburg and Gettysburg that followed in 1863 permitted him to apply his system more comprehensively and convincingly.

The Battle of Antietam was an encounter noteworthy as one of the earliest "victories" for the Union Army, enabling President Abraham Lincoln to publish

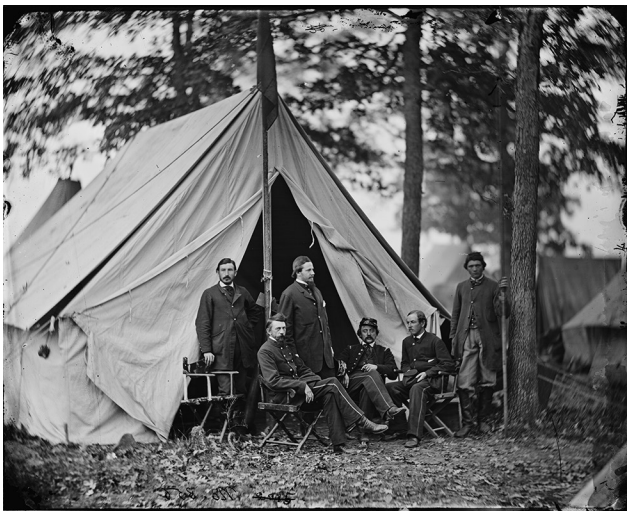

Figure 9-5. Major (Doctor) Jonathan Letterman (seated, first on the left) and his medical staff of the Army of the Potomac. Originally printed in Miller's photo history of the Civil War, v. 7, p. 219.
Reproduced from: https://collections.nlm.nih.gov/catalog/nlm:nlmuid-101436488-img.

the Emancipation Proclamation, which freed all slaves in the secessionist Confederate States. Lincoln had completed the edict earlier but did not issue it, fearing that in the absence of any clear Union victory it would appear to be an act of desperation. Upon the completion of the battle, Letterman faced a major decision of his own. Traditionally educated in the medical care principles and practices of the day, as are the healthcare professionals reading this textbook, Letterman was fully focused on providing optimal care to his individual patients. But Antietam created for him a crisis of conscience in which he came to see that he bore the responsibility to care for the entire Army—that care of the individual soldier rested upon his understanding of how to organize, man, equip, control, and provide proximate, continuous, and flexible care that conformed to both the ongoing battle and to a uniform standard of excellent care for the entire fighting force.

Letterman's subsequent creation of the "Letterman plan," completed in October 1862, revolutionized battlefield medicine as well as emergency care for many civilian cities following the war. US Navy observers of the battle also learned these lessons and applied them to maritime and riverine care. Letterman's insights remain some of the most significant in the history of healthcare in armed conflict as well as in natural and manmade disasters.

Major Letterman underwent a transformation in his thinking that every civilian and uniformed medical officer must undergo if they are to both provide the greatest impact for those they serve, and achieve the highest level of professional practice. This chapter has fully explored and deconstructed the elements of that transformation. While medical practice rests upon tactical events involved in the promotion of health and delivery of care to individual patients, the uniformed medical officer is incomplete without an understanding of and facility with operational level engagements, such as occur on an entire battlefield, a major medical treatment facility, or an epidemic or natural disaster. Survivors of the battles that followed Antietam and Gettysburg took their observations and experiences home to cities throughout the country. They demanded that their civic leaders emulate the Letterman Plan or began their own efforts in urban emergency care to duplicate the efficient and effective methods of care delivery they had seen in the Civil War. Letterman's efforts were truly strategic in their impact on American and global health and healthcare.

Ultimately, the role of military and uniformed medical care in the larger strategic context of defending the nation and preserving the health of the public must be learned to become a successful and complete medical officer. The demands of developing an understanding of human disease and injury and of maintaining proficiency in their treatment are often more engaging and personally rewarding—at least in the short run. But they cannot define the extent of a uniformed and military medical officer's skills. Like Jonathan Letterman, today's medical officers are challenged to ascend to a higher level of understanding and leadership if they are to fulfill their aspirations to serve honorably and the obligation to reach their full potential.

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