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## The Future of U.S. Military Health Services in a Time of Great Change

by

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*It's time we steered by the stars, not by the lights of each passing ship.*

General Omar Bradley

### **“Permanent Whitewater”**

The United States' military health service is today a \$15 billion organization providing healthcare for a beneficiary population of 8.5 million servicemen and women, their dependents and retirees, through a worldwide network of over 120 hospitals and 500 clinics. To undertake this task, it employs approximately 106,000 military and 48,000 civilian personnel. This vast organization is currently in the grip of two near simultaneous revolutions, the combined effects of which are set to bring about fundamental change in the way it delivers its services in peace and war. The first is in the way modern medicine is practiced, often called the Healthcare Revolution. The second, the so-called Revolution in Military Affairs (RMA)<sup>1</sup>, is a radical change in the way the warfighter will conduct his business in the future and, in turn, in what he will need of his medical services. As a consequence of these profound and apparently continuous changes, many in military healthcare are very uncertain about their future and feel as though they are “paddling their canoes in permanent whitewater” with no end in sight.

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The current wave of decisive change in U.S. civilian healthcare is being shaped by three key drivers: demography (specifically an aging population), rising expectations and technological innovation. At the core of reform is an attempt to limit spiraling costs by imposing Managed Care concepts, which is encouraging a shift away from traditional hospital-based medicine toward primary care. At the same time new technologies and practices, such as laproscopic surgery, have resulted in hospital bed stays dropping from an average of 10 days to 6.5 in the past five years, while short-stay admissions and outpatient treatment procedures have caused hospital throughput to increase by 30 percent in the same period. As sensational as these changes have been, they are only the beginning, as the Information Age alters fundamentally the way we practice medicine in the next millennium. This future has been described by former U.S. Surgeon General C. Everett Koop as “healthcare predicated upon customer-based responsibility, health promotion and preventive medicine, rather than the traditional ‘sick care,’ focusing on the treatment of disease and injury, that has been the underpinning concept of medicine in the 20<sup>th</sup> Century.”<sup>2</sup>

At the same time the warfighter, driven by similar technological and social imperatives, is moving as fast as he can to meet the challenges of the post-Cold War world. Technology-driven change — the aforementioned RMA — requires armed forces utilizing state-of-the art information technology and precision weapons, able to act rapidly and decisively on a high-tech battlefield.<sup>3</sup> These future warfighting concepts will require much smaller armed forces, with the three services obliged to organize and train to operate in a truly joint manner and in operations that will normally be conducted in coalition with allies.

This doctrinal and organizational shift will require much less manpower, but much of the money potentially saved in “downsizing” will be needed to buy high-tech equipment. Paradoxically, as technology advances, not only does it increase in cost but, as it becomes more sophisticated, it requires highly skilled and trained operators — and their costs rise too. The result is constant pressure to find money from savings in infrastructure costs, which many in the military view as a euphemism for reducing personnel support structures. This core debate on the balance among modernization, readiness and force structure (size) will remain a constant feature of military life in the future.

Even as this “revolution” develops, another is hot on its heels and its full effects are only now being realized.<sup>4</sup> This is the shift from traditional warfighting toward operations other than war (OOTW) which is, in simple terms, a spectrum of operations and conflict management short of conventional warfare. It encompasses operations as diverse as humanitarian relief, domestic security, counterterrorism, counternarcotics and peacekeeping. The key questions raised by these “revolutions” in military thinking concern how to balance manpower needs, equipment and training to meet all contingencies. In particular, serious doubts are being voiced about the utility of future armed forces designed primarily to operate on the high-tech battlefield.

### **733 Study**

The net effect on the Military Healthcare Services System (MHSS) has been profound. Cold War medical plans required a large and complex medical structure reaching from Norway to Norfolk, Virginia, and from Seoul to San Diego, capable of providing comprehensive care to tens of thousands of military casualties. This requirement disappeared with the Berlin Wall, and the experience of the Gulf War confirmed that such a large and comprehensive medical structure was redundant. The operational structure of the military medical services required an urgent restructuring

and in 1993 was subjected to intense scrutiny as part of the overall Department of Defense review of the U.S. armed forces. The medical portion of the report was called the 733 Study.<sup>5</sup>

The 733 Study found the peacetime primary care, occupational and preventive medicine organizations — the basis of the operational readiness structures and the key elements of both first- and second-echelon care — to be well maintained and adequate for their mission. However, there were strong reservations expressed regarding the availability of relevant military medical training in a number of specialties but specifically the clinical experience levels of medical personnel at the sharp end of operations. The most acute training shortfall was amongst the Army's combat medics, known by their Military Occupation Specialty (MOS) as the "91Bravo."

Military hospitals — for so long the "core business" of military medicine, consuming the lion's share of the military medical budget — were shown to be underutilized in many areas and profligate when compared with civilian organizations. Providing care for a young, fit community can neither fill beds nor provide the spectrum of medicine essential to train doctors, nurses and other medical professionals. For many years, these hospitals had relied upon the care of military retirees to provide the spectrum of medical experience necessary for training and were increasingly forced to send military doctors and nurses to civilian hospitals to train in trauma management — the essential military medical skill. Even this option has limitations, as it cannot always provide training appropriate for war.

The military health services, at first ill-prepared for so fundamental an examination, were slow to embrace the need for change. Moreover, the warfighter himself, in the middle of revolutionary change, was unable to describe what sort of medical organization he needed. However, with budgets shrinking rapidly and the experience of the Gulf War having indicated very convincingly that military victory in the future could and indeed must be achieved with minimal casualties, there were few incentives to spend money on what in effect has become "catastrophic medical insurance" for military operations.

The Assistant Secretary of Defense (Health Affairs) and the service Surgeons General have spent the interim years negotiating a very difficult and not-altogether clear passage. To their credit, there now appears to be a much clearer vision of the future and a genuine willingness to work toward a joint structure. However, they are still not out of the whitewater, for although the recently-completed Quadrennial Defense Review did not result in yet more major MHSS reductions, there can be little doubt that more change and some substantial reductions are inevitable as cost-savings are enforced. The restructuring of both peacetime and operational military healthcare must therefore remain a work in progress; much hard work and innovative thinking will be required to develop an organization fully able to meet the military's needs.

### **Steering a New Course**

What course should military healthcare take in the future? It is neither possible to say precisely nor wise or necessary to attempt to map a detailed course at this stage. It is probably better to decide on a general heading or direction and then "steer by the stars." We can then use the major principles and precepts of military healthcare as waypoints to enable us to maintain direction even when the events of the moment push us temporarily off course. However, in order to decide our general headings we must address two key questions: First, what will be the future business of military healthcare? Second, have we got the basic principles and precepts of military healthcare right?

## **Future “Business” of Military Healthcare**

In order to understand what the future “business” of military healthcare will be, we must first look at the “customers” or warfighters and attempt to determine their health needs. What will future warfighters be like? Well, we know they will come from homes less threatened by the extreme prospect of nuclear war, but nevertheless still disconcerted by lack of certainty in a risk-filled and shrinking world. Their families and friends will be unlikely to have much direct knowledge and understanding of the profession of arms or the conduct of war. It is increasingly likely that they will come from homes where changes in social values and lifestyles have made them physically and psychologically “softer” than their forefathers. As a result, they will probably be less willing or able to endure the traditional hardships of conflict without a great deal of training and preparation.

The warfighters will be employed by a society expecting military success at the lowest possible cost to the nation in money and manpower. They will conduct military business for a nation with a much diminished tolerance for human casualties, particularly amongst its own sons and daughters. They will serve a society so comprehensively influenced by the media that the television camera has become a weapon of war that not only shapes public opinion and affects national morale but is also capable of influencing the operational and even strategic outcome. Finally, they come from a society of ever-rising expectations, particularly in healthcare. It is evident that contemporary warfighters expect to have healthcare support in war equal to and in some areas superior to that which they get in peace.

There is little doubt that the business of warfighting, the sharp end of the operational spectrum, is not going to get easier in the foreseeable future. Technology is increasing the lethality of weapons and, in doing so, changing the way the battle is fought. More accurate and lethal weapons mean fewer of them — and fewer warfighters to operate them — are needed on the battlefield. That in turn is good for the medical profession because there are fewer people in harm’s way to get sick or injured. The paradox is that this same lethality places ever-increasing demands on the smaller number who have to remain on the battlefield to fight. They will have to disperse more widely and move faster than ever to avoid detection, protect themselves, and outmaneuver the enemy. The result is that they have become increasingly difficult to find and recover when they are injured. There was evidence in the Gulf War that, despite the low casualty numbers and the wealth of medical support, some casualties took many hours to reach definitive care. This was the consequence of high-speed combat and long evacuation routes.<sup>6</sup>

Technology has also negated the traditional limits of night and even weather on combat. The 24-hour battle is a reality, with all that it demands, physically and psychologically, of the fighter. The land battle of the Gulf War lasted a little over four days, but for the warfighter it was a hundred-hour battle with no respite. The result was that many combatants were so physically and psychologically exhausted that one commander described his forces as being “stressed by their own success.”<sup>7</sup> Faced with these demands, the warfighter of the future will have to be a very special person indeed. He or she will have to be carefully selected and trained; physically and psychologically robust; and with greater intellectual capability than traditionally required.

Our future warfighter will become increasingly difficult to find, expensive to train, and difficult to replace. Furthermore, they will be so few in number that even the loss of small numbers will have a dramatic effect on combat power. For example, the modern B-2 bomber with a crew of three is said to have the equivalent combat power of 70 aircraft from the Vietnam War era. But if one member of the B-2 crew becomes sick or injured, his replacement will be a specialist in very short

supply. If a replacement cannot be found, the nonavailability of the aircraft could mean a significant loss of combat power. The same argument is true of the Army's Apache attack helicopter and, in the future, the Comanche reconnaissance/light attack helicopter.

Even the Navy is not immune: The major surface warships of the future will have crews of fewer than one hundred; how many can be lost to disease and injury before the ship can no longer fight? This modern phenomenon makes the traditional military medical role of conserving the fighting force ever more vital and should lead to the reestablishment of preventive medicine and health promotion as the major tasks of military healthcare — tasks that have until recently been eclipsed by the preoccupation with treating and evacuating the wounded from battle. It also significantly raises the profile of Disease and Non-Battle Injury (DNBI) as a factor in medical planning.

Even if, as appears increasingly likely, the majority of future U.S. military operations are low-intensity OOTW, U.S. forces will still have to organize and train for high-intensity conflict. Furthermore, operations such as peacekeeping are no less demanding than actual combat, merely different. Modern combat is designed to be intense but of short duration; peacekeeping operations tend to be protracted and, although levels of violence are lower, there is always the risk of death and injury. Moreover, as many of these operations take place in countries where the social infrastructure has been destroyed, the risk of disease and injury is high. In summary, the politics and ethics of OOTW demand a very high level of healthcare support.

It seems clear that the warfighter's needs for tomorrow's conflict have so fundamentally changed that the MHSS requires a comparable transformation in the provision of healthcare in both war and peace. The underpinning debate concerns how best to reconcile the needs of readiness with the often competing day-to-day demands of the peacetime mission. In the future, operational health support must be capable of providing the highest standards of care from the outset; it can no longer afford to adopt the traditional approach of getting better through experience as operations develop. The most pressing dilemma facing the Surgeons General is how best to obtain the necessary training in peace to prepare for war, given that the peacetime hospitals and medical centers in the main are unable to provide such vital experience as military-relevant trauma care. Even where such training is available, it is not enough to meet the demands of the three services' clinical specialists, particularly surgeons and operating room staffs.

The problem of training the "first responder" — the combat medic, is much larger and far from being solved. He or she is the vital first link in the chain, without whom the casualty will never get off the battlefield alive. History shows that even with highly sophisticated care at subsequent echelons, combat mortality and morbidity rates rise without well-trained "first responders." How this training can best be achieved — and this must include continuation training — is a complex issue and contentious debate. Emerging technologies such as telemedicine may provide some answers, but they must be focused on training rather than on attempting to substitute for expertise.

We must face and solve these dilemmas if we are not to repeat the lessons of history, poignantly described in a postconflict report of British medical efforts during the Crimean War. "How wide and various is the experience of the battlefield and how fertile the blood of warriors in raising good surgeons."<sup>8</sup> This censure has been a common theme of postconflict medical reports from that day to this. It should not and does not have to be an indictment of health support for operations in the future.

The other key interrelated question concerns how best to provide healthcare for dependents and retirees. The latter in particular are the major consumers of peacetime military healthcare at the hospital level. On the one hand, they are a major limitation on readiness; much effort and resources are required to ensure they are provided for when the MHSS is deployed. On the other hand, without the broad clinical practice that the retirees in particular provide, it would be impossible to render the breadth of patient care necessary to train, accredit and retain, in peacetime, many of the specialist healthcare providers who have operationally vital medical roles. Resolving this paradox will be key to the future of operational healthcare support.

### **Operational Healthcare Precepts for the Future**

Even a cursory examination of our long-held, operational healthcare principles and precepts raises some key questions which will have to be addressed if we are to take those principles into the future. As already discussed, the traditional roles of maintenance of health, prevention of disease, and treatment and evacuation of sick and wounded from the battlefield are being carefully reexamined. Also pressing is the need to redefine the function of casualty rates as a key to medical force planning. Traditionally, the warfighting staffs, in concert with the medical staff, have produced a prediction of the expected rate of combat casualties expressed as a percentage of the force deployed over time. This calculation, often shown as a figure or casualty estimate, is used to determine the capabilities and size of the deployed healthcare support. If future political and military imperatives dictate few casualties, on what criteria will casualty rates be developed? Will a casualty rate be expressed as an estimate for an operation? Will these rates continue to be the tool used to dictate the shape and size of deployed healthcare support, even if the predicted rates are too small to be used to produce viable medical organizations?

Modern warfighting doctrine, designed to be undertaken by small numbers of highly trained combatants, dictates that casualties require almost immediate replacement from reserves in order to retain combat power. The same doctrine strives to limit logistic footprints, seen as the Achilles' heel of deployed forces. The combined effect is to severely constrain the shape and size of in-theatre medical support. There is growing pressure to evacuate all but the most minor sick and injured out of theater as quickly as possible. This trend has brought about the need for a review of traditional evacuation policies designed to treat in theater, hold and return to duty the maximum number of combatants who could be "repaired" within a given time-frame. There is also a pressing need to reexamine the current system for casualty notification. The aim should be to give it the greater speed and accuracy necessary to cope with the ever-increasing demands of news media reporting.

Finally, there is a need to examine the overall effect of technology on deployed health support. What will be its true impact on the quality of care at every level? How will it reshape the traditional structures and echelons of care on the seamless digital battlefield? Will there be a need in the future for such distinct organizations as battalion aid posts and medical battalions? How valid is the concept of each individual service deploying with a "stand-alone" medical capability, particularly deployable hospitals, in the modern era of joint operations? Is there a continuing role for hospital ships configured like the USS *Mercy* or *Comfort* in the electronic maritime combat environment? What medical capabilities are vital in deployed healthcare organizations? What functions are being made operationally redundant by new technology-driven processes such as telemedicine? Most critically, how are we to use available and emerging technologies to gather operationally vital medical data from theaters of operation? There is general agreement throughout the military

healthcare community that one of the most pressing requirements is to replace the current system of paper-based medical records and data capture — unchanged since the Civil War — with Personal Information Carriers (PICs) such as “smart cards” or medical “dog tags.”

The answers to these questions, and others, will be vital to mapping the future direction of military healthcare. They can be answered only by continuing to review in detail the roles and missions of military healthcare in peace and war. This review process will be relevant only if it is conducted in close concert with the warfighter; to paraphrase the great 19<sup>th</sup> century French leader Georges Clemenceau, “Military healthcare is too important to be left to military healthcare professionals.” The result of this review process should be an evolving military medical doctrine shaped to meet the warfighter’s needs, compatible with the requirements of all three medical services, and adaptable enough to be used in multinational operations across the spectrum of conflict. This doctrine in turn should be the basis on which organizations, training, equipment and logistic support of future military healthcare organizations should be designed.

## **Conclusion**

As the U.S. military prepares itself for the 21<sup>st</sup> century it is carrying out a detailed reexamination of its institutions at every level. Few are more vital, and more complex, than military healthcare. It too is in the middle of a “revolution,” driven by changes in national healthcare and by modern warfighting doctrine, particularly the Revolution in Military Affairs and operations other than war. Restructuring began in 1994, to meet the needs of the post-Cold War military. Since that time change has been almost continuous and much has been achieved, but there is still a requirement to develop a more “customer-based” operational medical doctrine for the future. This doctrine must recognize that the future conflict will involve far fewer warfighters in direct combat than in the past and that the overall number of casualties will be fewer. However, even small numbers of casualties could critically affect operational combat power. Moreover, the future warfighter will be hard to recruit, require expensive and lengthy training, and be very difficult to replace rapidly. The key to future operational medical support will therefore be the tasks of health promotion and preventive medicine. With regard to the treatment of future sick and wounded, the key issue remains training. There is a need to reconcile the demands of providing healthcare in peacetime to servicemen and women, their dependents and retirees against the need to train for the injuries and diseases of war.

Finally we should take stock of the impact of technology at every level of operational healthcare support, particularly the processes of producing casualty rates, evacuation policies, patient tracking, casualty notification and, most vitally, training. Our aim must be to use technology to enhance the quality of the care we provide, rather than as a substitute for trained and expert people. The future of military healthcare is one of rapid and major change. This change brings with it great uncertainty but also much opportunity. Change of the magnitude needed to shape military healthcare for the next century will not be easy to achieve. What must be done now is to generate fresh impetus in the ongoing deliberations among the three military health services by including the “consumer,” — the warfighter — at every level of the debate.

## Endnotes

1. A concise description of the Revolution in Military Affairs is provided in the work of an early analyst on the principles of the RMA. See Michael J. Mazarr, *The Revolution in Military Affairs: A Framework for Defense Planning* (Carlisle Barracks, Pa.: U.S. Army War College, Strategic Studies Institute, 1994), pp. 22-27.
2. Keynote address by C. Everett Koop, MD, to the annual meeting of the Association of Military Surgeons of the United States, Orlando, November 1994.
3. Ralph Peters, "Perspectives on the Revolution in Military Affairs: After the Revolution," *Parameters*, Vol. XXV, no. 2, Summer 1995, and "The Culture of Future Conflict," *Parameters*, Vol. XXV, no. 4, Winter 1995-96.
4. Ralph Peters, "After the Revolution," *Parameters*, Vol. XXV, no. 2, Summer 1995; Steven Metz and James Kievit, *The Revolution in Military Affairs and Conflict Short of War*, Occasional Paper, Strategic Studies Institute, U.S. Army War College, Carlisle Barracks, Pa., July 25, 1994.
5. U.S. Department of Defense, Office of Program and Evaluation Report 1994, *Section 733 Study* (so-called after the National Defense Authorization Act 92/93).
6. Colonels R.A. Leitch and L.W. Lillywhite, "Medical Support for the Gulf War" in Martin S. White, ed., *Gulf Logistics* (London: RUSI/Brassey's, 1995), Chapter X (Medical Support).
7. Address by Major General Rupert Smith, Commander 1<sup>st</sup> (UK) Armored Division, to the British Army Staff College, July 1992.
8. Sir Clifford Allbutt, "Medical Lessons of the Crimean War," *British Medical Journal*, 1898.

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