

Marine Forces Reserve Health Services Support Strategy

Lessons from twenty years of conflict

by CAPT Justin S. Campbell, USN

During the wars in Iraq and Afghanistan, the U.S. military achieved an unprecedented level of survivability by delivering care as temporally close to the point of injury as possible, resulting in what became known as the *golden hour*, during which patient movement via medical evacuation (MEDEVAC) or casualty evacuation (CASEVAC) from point of injury to Role 2 care happens within 60 minutes or less. Within Afghanistan, the combination of uncontested air superiority, constrained geographic space, and top-tier, in-country trauma centers enabled Secretary of Defense Robert Gates to mandate pre-hospital helicopter transport to Role 2 or higher care in 60 minutes or less. This policy resulted in statistically significant reductions in the percentages of those killed in action and the case fatality rate, which, among 4,542 cases, was estimated to save 359 lives. In addition to the MEDEVAC policy, factors thought to contribute to the low fatality rates in Iraq and Afghanistan include improved training across the force in battlefield hemorrhage control, featuring widespread distribution of tourniquets, and rapid blood transfusion before arriving at field hospitals. The manpower, training, and equipment of record for Marine Forces Reserve (MARFORRES) Health Service Support (HSS) today is a legacy of the advancements and lessons learned from twenty years of conflict in Iraq and Afghanistan.



A squad leader with Weapons Company, 2/1 Mar, writes the 9-line for a simulated combat casualty as part of Operation FIREBREAK at Camp Pendleton, CA. Operation FIREBREAK is an exercise held by the Navy Expeditionary Medical Training Institute to provide realistic field medical training for Marines and sailors. As part of the exercise, Marines and sailors moved simulated casualties through all three levels of casualty care, from the field to a fleet surgical team. (Photo by LCpl Earik Barton.)

Notwithstanding the value of the lessons learned from recent U.S. medical military history, the military health system is at an inflection point where past doctrine and practice must be evaluated for their applicability to the current se-

curity and threat environment. In particular, the United States is confronted with the prospect of large-scale combat operations (LSCO) with a peer-adversary—the People’s Republic of China (PRC). The PRC has adopted an anti-access/area denial (A2/AD) strategy, buttressed upon its considerable short, medium and long-range missile capability designed specifically to prevent the use of U.S. carrier strike groups within missile range of PRC long-range,

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anti-ship ballistic and cruise missiles, an area referred to as the weapons engagement zone. The weapons engagement zone is thought to extend as far as 3,000 to 4,000 miles from landbased launchers of the DF-26 missile and covers thousands of miles from the shores of China to the second island chain, including Guam. Additionally, the PRC also has a considerable anti-air missile capacity that will further restrict air-based operations. Taken together, air patient movement, the linchpin of the golden-hour strategy, will be at risk in future LSCOs with the PRC. Just as challenging are the sheer distances involved in the U.S. Indo-Pacific Command (INDOPACOM) area of responsibility (AOR). The scope of the distances in the INDOPACOM AOR will challenge the U.S. military health system's Role 2 coverage. In addition to patient movement and access to surgical care, A2/AD will challenge the sustainment of health services' medical logistics, meaning that as casualties mount, supplies will diminish without replenishment.

The Marine Corps has responded to the PRC's A2/AD strategy with the expeditionary advance-based operations (EABO) strategy, which seeks to reduce risk by distributing the force over a wide geographic area while maintaining the capacity to challenge PRC access within the AOR. To supply HSS functions to EABO-based Force Design, the Marine Corps is experimenting with new HSS formations. Specific examples include a small, more mobile version of the Forward Resuscitative Surgical System/Shock Trauma Platoon (FRSS/STP) referred to simply as Damage Control Resuscitation/Damage Control Surgical Teams (DCR/DCS). The MEDEVAC missions (i.e., dedicated patient movement with organic en route care) have typically been the domain of the Army and Air Force, while the Marine Corps conducted only CASEVAC (lifts of opportunity, no organic en route care). New and expanded en route care teams are being designed to support patient movement over larger distances and longer time frames, necessitated by the geography of the AOR.

Because patient movement is expected to be either denied or at best

delayed compared to Iraq and Afghanistan models, expanded patient wards with greater patient holding capacity are being designed for the new Marine Expeditionary Medical Unit, which exceeds current surgical platoon size and capacity, and addresses capability gaps for higher levels of forward care left by the uncertain future of legacy Navy Expeditionary Medical Facilities. The MARFORRES HSS is working with Combat Development and Integration and the Marine Corps Warfighting Lab to support testing and experimentation with these new formations, with a planned DCR/DCS and en route care

two Roles of Care. Role 1 care starts at the point of injury with Marines and sailors applying Tactical Combat Casualty Care (TCCC) principles for field care and continues through patient movement to battalion and flight line aid stations, which are organic to the ground (4thMarDiv), air (4thMAW) and logistics (4thMLG) combat elements. Role 1 care encompasses immediate lifesaving measures, disease and non-battle injury prevention and care, combat and operational stress prevention measures, and patient location, acquisition, and movement (medical regulation).

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evaluation in conjunction with the 4th Medical Battalion at Exercise GLOBAL MEDIC 2025. Recently, the MARFORRES force surgeon led a team that supported an in-field MCRE of a DCR/DCS team exercising in support of the new Marine littoral regiment formation designed for EABO operations. There clearly is momentum within the Marine Corps to adapt HSS to support EABO operations, and MARFORRES HSS is playing a role in the effort.

Looking forward, MARFORRES HSS is pursuing a campaign of objectives, activities, and investments that are nested within the MARFORRES commander's priorities and executed and evaluated within Joint exercise life-cycle events and annual force training requirements. The MARFORRES HSS campaign plan focuses on three key lines of effort: survivability, movement, and sustainment.

Health Service Support in the Marine Corps consists of six functional areas: casualty management, force health protection and prevention, medical logistics, CASEVAC and patient movement, medical command and control, and medical stability operations. These six functions are also executed by HSS within the MARFORRES across the

The MARFORRES also possesses Role 2 capabilities, a function executed solely by the 4th Medical Battalion within 4th MLG. Role 2 provides advanced trauma management and emergency medical treatment. Role 2 care starts with DCR (non-surgical interventions to control hemorrhage/contamination and establish physiological stability) executed by a ten-person STP. The STP is essentially the emergency room on the battlefield that bridges the gap between point-of-injury field care/aid stations and surgical care, providing stabilization, triage, and coordinating evacuation. The FRSS is an eight-person team that provides DCS and life, limb, and eyesight-saving actions. The STP can operate independently, whereas the FRSS cannot operate without an STP section. When a FRSS/STP is augmented with en route care, radiology, laboratory, holding ward, and, if needed, a dental detachment section, it forms a surgical platoon. The MARFORRES is authorized for ten FRSS/STP elements, which are distributed across two surgical companies.

The survivability line of effort focuses on increasing post-wound survivability in A2/AD environments, starting with care at the point of injury and



Sailors with 1st Medical Battalion, 1st Marine Logistics Group, carry a patient into a Role 2 care center during a notional casualty scenario, part of a certification exercise on Camp Pendleton, CA. The certification exercise is being conducted to demonstrate the ability to establish Role 2 capabilities through scenario-based training. (Photo by Cpl Desiree Ruiz.)

Role 1 capacities such as the battalion aid station. With A2/AD, we should expect that fewer patients will be moved *off the x* to aid stations, and for those patients who are evacuated to aid stations, a longer patient holding times to receive surgical intervention/Role 2 levels of care. The TCCC training and equipping for individual Marines and sailors at the front is the key foundation to increase survivability and is vital in A2/AD environments. Efforts to introduce the concept of Prolonged Casualty Care (PCC) to improve TCCC are underway, such as developing walking blood banks that allow corpsmen to provide blood transfusions using blood from pre-identified compatible donors within the forward ranks.

Corpsmen are also starting to study PCC topics at field medical training battalions. Despite some progress, PCC concepts and strategy for A2/AD remain a work in progress. Elevating the overall skill set of the scope of medical practice and capacity for corpsmen and the providers at Role 1 aid stations will be required to make substantial gains in PCC. For the present, ensuring TCCC is being trained, reinforced, and supplied (corpsmen assault packs in particular) at the small-unit level is

a key MARFORRES HSS objective. The MARFORRES HSS is also looking for opportunities to learn Role 1 care strategies from partner nations with lower-middle-income military health systems who operate in austere, resource-constrained environments. Just recently, MARFORRES HSS sent a small team to conduct TCC training

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during Exercise COBRA GOLD 2025 and is looking for similar opportunities in the SOUTHCOM AOR for FY26.

The second line of effort is movement, which refers to the need to develop strategies for patient movement in A2/AD environments. Medical modeling simulations make one thing clear: the ability to clear a patient holding ward is essential to suppressing mortality rates. The recommended patient holding time for a Marine surgical platoon is four hours, the maximum being 72 hours, for 18 surgical cases or

20 trauma resuscitations. Developing novel means of moving large numbers of patients to higher levels of care in A2/AD will require innovations in en route care techniques and procedures, and exploration of novel modes of transport.

Last and perhaps the most challenging is the sustain line of effort. A2/AD will restrict the ability to receive medical supplies forward and disrupt the theater Class VIII supply chain. While MARFORRES has a limited medical logistics footprint within 4th MLG, HSS is working with active-component surgeons offices and G4/G5 experts to develop concepts of employment by which MARFORRES medical logistics can be optimally employed and integrated into MEFs Class VIII sustainment strategies, including pre-positioning of Class VIII and collaboration with the Army's 18th Medical Command to medically *set the theater* for medical distribution in LSCO.

The MARFORRES HSS has substantial medical capabilities that, because of the expeditionary nature of the Marine Corps, make each a key element of the effort to adapt to the challenges posed by the prospect of preparing for LSCO in an A2/AD environment. While experimentation and innovation are required to successfully adapt to this environment, the MARFORRES HSS campaign remains dedicated to ensuring the fundamentals of Role 1, TCCC, remain at the forefront of maximizing survivability while we explore novel ways to move patients and sustain the force medically.

