MEDEVAC AND THE FUTURE
IS IT TIME TO CHANGE THE APPROACH?

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Biography

Colonel Thomas Barrett was commissioned in 1995 from the University of Alaska, Fairbanks ROTC program and has served in numerous command and staff positions in his Army career. He is a graduate of the Aviation Officer Basic Course, the Initial Entry Rotary Wing Course, the Aviation Officer Advanced Course, Combined Arms Service Staff School, the United States Army Command and General Staff College and the Advance Military Studies Program. He is qualified in the OH-58D Kiowa Warrior and the UH-60A/L/M Blackhawk and has over 2,400 flight hours.

Colonel Barrett has deployed multiple times in support of Operation Iraqi Freedom and Operation Enduring Freedom. He most recently served as the Director of Evaluation and Standardization for U.S. Army Aviation. He has previously served as an assistant operations officer, platoon leader, logistics officer, company commander, personnel officer, and operations officer in the 10th Mountain and 82nd Airborne Divisions. He also served as the future operations chief and planner for US Army Pacific’s deployable Contingency Command Post, and commanded a general support aviation battalion. Colonel Barrett is currently assigned to the Air War College, Air University, at Maxwell AFB, AL.
Abstract

The U.S. Army is the only element of the Joint Force with dedicated crews and aircraft for the sole purpose of executing the MEDEVAC mission. It is currently the policy that intra-theater aircraft flown by the U.S. Army will be marked as medical assets in accordance with the Geneva Convention, specifically Article 36 of the First Geneva Convention. This mission has only been executed under the umbrella of air superiority; future wars may not afford the United States this capability. As such it is time to relook the assumption that MEDEVAC aircraft should be marked in accordance with the Geneva Conventions.

Conflicts of the future are going to be extremely lethal and ones the United States military has not seen since World War II. Future conflicts will not have the luxury of positioning and using MEDEVAC as they are in today’s conflicts. Now is the time to look at innovation in both thinking and capabilities to meet the requirements of the future. A change in thinking on this topic requires analysis and understanding the Geneva Conventions, future battlefields, the potential effects of this change, other options available, followed by a discussion of perceptions. Future battlefields will require not only effective medical capability but also survivable platforms. Relooking the model will be a must, as the Army like the Air Force, will eventually have to face the challenge of aging platforms and limited resources including future aircraft. The complex more lethal battlefield of the future requires a challenge to the current assumption that MEDEVAC aircraft must be marked.
Introduction

“Conditions of future wars will be extremely austere. Water, chow, ammo, fuel, maintenance and medical support will be all that we should plan for. Soldiers could expect to be surrounded all the time, so they will always need to be on the move if they hope to stay alive.”

“There will be no clear front line, no secure supply lines, no big bases.”

GEN Mark Milley, Army Chief of Staff

These comments by the Chief of Staff of the Army started to shape the current thinking about future battlefields. Conflicts of the future are going to be extremely lethal and ones the U.S. military has not seen since World War II. Medical assets have been able to move freely about the battlefield and quickly evacuate casualties. Future conflicts will not have this luxury and now is the time to look at innovation in both thinking and capabilities. Success in future environments will require originality and new ways of thinking regarding the evacuation of casualties. Innovation will be critical to success and mission accomplishment in future fights. Routinely recognized in defense documents and papers, “innovation is paramount to the complex warfighting environment.”

Department of Defense (DoD) Directive 5100.1 assigns responsibility of intra-theater aeromedical evacuation to the U.S. Army. It is U.S. Army doctrine and policy to mark aircraft in accordance with Article 36 of the Geneva Convention, insuring crews and aircraft operate under a protected status. Per regulation this marking cannot be removed, painted over, or obscured. It is in this context this paper questions marking of aerial medical evacuation (MEDEVAC) rotary wing assets. Is the current constraint of marking aircraft for the sole purpose of MEDEVAC limiting innovation and potentially more importantly DoD capability? There is and will always be a requirement to evacuate wounded from the battlefield, but should the U.S. Army continue to mark MEDEVAC aircraft to meet this requirement? It is time to
reconsider the current approach and look for innovative solutions to better support service members in future wars.

Does marking aircraft with a red cross prevent development of a better way to execute tactical aerial MEDEVAC? Troops operating in denied environments with no clear lines or big bases, as described by today’s leaders, depend on MEDEVAC. How can the U.S. Joint Force best provide the enabler troops require, and the public demands in complex environments of the future is a question that must be answered.

As the military looks to the future and more toward major combat operations against near-peer competitors, it is time to reconsider key policy and operational assumptions associated with MEDEVAC. Should the DoD and U.S. Army remove the red crosses from MEDEVAC platforms and give up the protections specifically for the aircraft? The U.S. Air Force removed red crosses from its C-9 aircraft and moved to a platform agnostic model. Now C-130s, C-17s and other aircraft are used for medical evacuation without display of a red cross.9 In this model, it is the medical crew and systems which are moved and configured to meet mission requirements.

The U.S. Air Force retired its active-duty C-9 aerial evacuation aircraft in 2005.10 Now a variety of opportune aircraft with dedicated crews and equipment are used for the Aerial Evacuation mission.11 This platform agnostic model is composed of medical crews and equipment that can move between platforms. It is different from the U.S. Army’s model of dedicated platforms, crews and equipment. The U.S. Air Force model has the possibility to provide more flexibility and capability to the mission in future conflicts. The U.S. Army and larger DOD should more closely evaluate this model for use and adoption to meet future mission requirements. If the goal of the medical system is to provide the best and most responsive
medical care it may be time to combine new ways of thinking with other models and capabilities. The models used by the U.S. Air Force combined with capabilities such as Special Operations capabilities like the U.S. Air Force Special Operations Surgical Teams, and the United Kingdom’s Medical Evacuation Response Team (MERT), could be the future of MEDEVAC.

Some of these recommendations are not new but, should be reassessed under the context of unmarked MEDEVAC aircraft. The U.S. Air Force changed its model for intra-theater aerial evacuation aircraft in 2001; it is time for the U.S. Army to look at the possibility of doing the same. Future battlefields will require not only effective medical capability but also survivable platforms. Additionally, the U.S. Army like the U.S. Air Force, will eventually have to face the challenge of aging platforms and limited resources.

Flexibility and capability to meet operational requirements in conflicts of the future must be at the forefront of the discussion and research. “MEDEVAC platforms must present a capability to the commander founded on scalable forward care capable of operating in asymmetric future battlefields.” Recognizing removing the markings opens up the aircraft to be armed, a potential positive benefit, the arming of aircraft should not be driving the discussion. The focus must be capability and capacity to best operate in a complex future conflict within the intent of the law.

Thinking through the potential changes in policy necessitates a review of a few topics. These include Aerial Evacuation, the Geneva Conventions its Additional Protocols and commentary followed by a discussion of future battlefields, the potential effects of this change, other options available, and a brief discussion of perceptions and implications.
Aerial Evacuation

MEDEVAC and aerial evacuation generally is one component of the total military health system. The military health system, specifically, the integrated medical evacuation system, combined with the further development of Tactical Combat Casualty Care, has created a synchronized model of care and patient evacuation. Over time the system has proven its effectiveness. The recent wars in Iraq and Afghanistan have proved the success of the system. It is responsible for an unprecedented survival rate of 98% of casualties in today’s conflicts. It is not the intent of this paper to challenge the overall system itself, only one piece of the system.

This paper only questions the requirement to move casualties on specially marked aircraft as a matter of policy and doctrine. The military health system has successfully used other unmarked aircraft to evacuate patients in Afghanistan and Iraq. Patients have been evacuated from points of injury using all U.S. services and coalition aircraft within the tactical evacuation system. Due to high demands of multiple conflicts and their dispersed nature, other services and coalition aircraft augment the U.S. Army in the execution of the MEDEVAC mission. U.S. Air Force Rescue Squadron aircraft, and British, German, Norwegian, and Spanish coalition aircraft have all supported and performed MEDEVAC in Afghanistan. MEDEVAC aircraft in Iraq also were augmented by Navy HH-60s to meet mission requirements. In Afghanistan, U.S. Air Force and coalition aircraft routinely flew unmarked MEDEVAC missions. Their success is evidence the system works with virtually any type aircraft regardless of markings.

The DoD assigned the U.S. Army responsibility for aerial MEDEVAC, specifically intra-theater aeromedical evacuation in a defined theater. In completing this mission, the U.S. Army specifically marks aircraft, trains crews, and equips aircraft for MEDEVAC, and is the only service to do so. There are three types of enroute care defined by U.S. Joint Doctrine. “Casualty
evacuation (CASEVAC) is the unregulated movement of casualties. MEDEVAC is the regulated movement of casualties in predesigned transportation. Aeromedical Evacuation (AE) is the U.S. Air Force system of moving regulated patients between medical treatment facilities.20 The U.S. Army is the primary provider of intra-theater aerial evacuation for the U.S. Joint Force.21

The crews and aircraft, which comprise the U.S. Army MEDEVAC, have created an exceptional model of caring for and movement of wounded on the battlefield to the next higher levels of care. The use of helicopters in the aeromedical evacuation system has a history going back to the Korean War when the U.S. Army pioneered the use of helicopters to evacuate wounded off the battlefield.22 However, it wasn’t until 1962, during Vietnam, the U.S. Army began using aircraft marked with the red cross for this mission.23

U.S. Army MEDEVAC aircraft are purpose-built for the MEDEVAC mission.24 Not only are aircraft marked, but are designated, equipped and staffed with medical personnel. This is a key distinction from other services. It remains essentially unchanged from what was used in Vietnam.25 This concept becomes a key stake for the medical community; it is not necessarily about the marking of the aircraft but design and allocation of specially identified and organized aircraft specifically for MEDEVAC.

Modeling for Afghanistan showed demand for over 97 MEDEVAC aircraft to meet the “Golden Hour” standard.26 The “Golden Hour” is the requirement established to evacuate a casualty to the next higher level of care with in one hour for an urgent or urging surgical mission.27 Secretary Gates declared it the U.S. military standard in 2009.28 The pressure to use aircraft for other than MEDEVAC missions has existed since Vietnam.29 It is also one of the main reasons the U.S. Army continues to mark aircraft today.30 According to the Army, the
aerials are marked to ensure specific allocation and use for this mission, “the aircraft and crew are marked for no other mission.”

Too often the history and culture of organizations limits new and distinct ways of thinking. Processes and thinking stuck in past models limits opportunities to enact change to meet the future. Admittedly, a risk of removing the markings opens from dedicated MEDEVAC aircraft is it could open the aircraft up for other missions. Without red crosses and the inferred designation, aircraft could potentially be used for any mission with MEDEVAC becoming a secondary role. This was the fear in Vietnam. A concept was developed to use portable red crosses for the MEDEVAC mission but regularly use the aircraft for other missions. It is not the intent behind this question to create “multi-role” aircraft and allocate aircraft to the MEDEVAC mission when required or as a secondary mission. The allocation of aircraft for the mission would be set. There should always be dedicated aircraft for this mission, just not marked aircraft. Allocation of aircraft for this specific mission could be accomplished through tasking and operational orders. These orders would establish the requirement of units to maintain a capability to perform the MEDEVAC mission no different that the current allocation. Additionally, U.S. Army units have a Mission Essential Task List (METL). This list of required tasks would ensure crews could still be highly trained on mission requirements and equipment ensuring they are capable to support the mission. While not a complete or the sole solution, these two points highlight ways to mitigate risks associated with this change in thinking.

It is time for the U.S. Army to consider alternatives to the current MEDEVAC model of marking aircraft. Other alternatives and capabilities must be evaluated against the enduring and critical requirement to evacuate wounded from the battlefield. Even today, unmarked aircraft perform this mission and do not suffer from mission creep or are used for other missions. Mixes
of marked and unmarked, but allocated aircraft, in Afghanistan still support the current system.\textsuperscript{33} This is a critical mission and one that the nation, troops, and leaders expect to be a part of our military planning and operations. The requirement to care for Soldiers, Sailors, Airmen, Marines and our coalition partners is a sacred one. Challenges to an effective and proven system should not be taken lightly. It is the future and its challenges our troops face which require a new approach to thinking about the employment of MEDEVAC resources. To continue moving forward with a potential change, analysis must continue with an understanding of the Geneva Conventions, its rules and impacts on medical evacuation. Overcoming the history and passion associated with MEDEVAC begins here.

**Geneva Conventions, Additional Protocols, and Commentaries**

It is currently the policy that intra-theater aircraft flown by the U.S. Army for MEDEVAC will be marked as medical assets in accordance with the Geneva Convention, specifically Article 36 of the First Geneva Convention (GCI). The U.S. Army marks MEDEVAC aircraft solely dedicated to this mission in accordance with the GCI.

“Although the most recognized mission of MEDEVAC assets is the evacuation and provision of en route medical care to the wounded, the essential and vital functions of MEDEVAC resources encompass many additional missions and tasks that support the medical mission. MEDEVAC resources are used to transfer patients within the JOA (Joint Operations Area) and from MTFs (Medical Treatment Facilities) to patient staging elements; emergency movement of Class VIII, blood and blood products, medical personnel and equipment; and serve as messengers in medical channels.”\textsuperscript{34}

Marking aircraft in accordance with the Geneva Convention supports all of these missions and has been the standard since Vietnam.

Operating under these rules should provide the aircraft protected status. It should be noted, the status of the medical crewmembers does not change regardless of aircraft marking. In accordance with CGI medical personnel are protected.\textsuperscript{35} The reality in recent wars has shown
something quite different for MEDEVAC. Aircraft properly displaying the red cross and flying at heights, times and along agreed upon routes are to be safe from deliberate targeting by the enemy. Although according to the U.S. Army no deliberate attempt has been made to target MEDEVAC aircraft specifically, historically and in the current conflicts, MEDEVAC aircraft are routinely shot.

Even as far back as Vietnam, it was recognized the enemy has not always followed the protection afforded by the Geneva Conventions. In Vietnam, MEDEVAC aircraft and their crews experienced 3.3 times higher casualty rates compared to other helicopter missions. MEDEVAC aircraft operating in Afghanistan from one unit in one operation over a period of six months were shot at 57 times. Most recently, in Syria, a MEDEVAC aircraft returned with not only the casualty but also numerous bullet holes. It is clear in both history and current conflicts the protection of the Geneva Convention does not matter to the enemy. The U.S. Army evacuation aircraft used in Iraq and Afghanistan are marked and unarmed. Two other aircraft are flown in support of this mission, but fly as CASEVAC platforms, not MEDEVAC. The U.S. Air Force “PEDRO” Pavehawk, a modified Air Force version of the U.S. Army’s Blackhawk, and the UK Royal AF Medical Evacuation Response Team (MERT), a CH-47, are tasked and allocated for the CASEVAC mission in Afghanistan. Both the MERT and PEDRO are unmarked and armed with mini-guns in addition to carrying trained medical personnel.

Although the U.S. is dedicated to abiding by the GC and therefore afforded protection, the reality of execution by the U.S. is slightly different. The U.S. has not operated aircraft under the complete letter of the law with respect the specifics outlined in GC1 Article 36. There are three parts of Article 36 present a challenge to compliance. First, aircraft performing the medical evacuation mission are protected while flying at heights, times and on routes specifically agreed
upon between the belligerents concerned. Second, unless agreed otherwise; flights over enemy or enemy-occupied territory are prohibited. Third, medical aircraft shall obey every summons to land. In the event of a landing thus imposed, the aircraft with its occupants may continue its flight after examination, if any.\(^4\) Operating under air superiority and in ambiguous conflicts has complicated the expectations of MEDEVAC and blurred the operational capacity to follow the requirements.

The environments operational forces have fought in have shaped operations under this construct. Since the employment of MEDEVAC in Korea, through Vietnam, and today, the force has operated under the umbrella of air superiority. In future environments, MEDEVAC may not operate or be in a position to operate under this protection. This unknown future presents a potential challenge to meet the Geneva Convention requirements as currently applied by U.S. forces. The intent behind marking the aircraft is to operate MEDEVAC in accordance with the Geneva Convention Article 36 of GCI.

In every war since Vietnam, the U.S. has operated the MEDEVAC mission under air superiority. This environment has enabled U.S. forces to operate with impunity in the land and air domain. This freedom has permitted and supported the current model of MEDEVAC without questioning the need for specially marked and dedicated aircraft or requiring the U.S. to completely comply with Article 36 of the Geneva Convention. Operating under air superiority has allowed the United States to operate its MEDEVAC without question by other parties or the international community in conflicts. In the future, this may not be the case and potentially presents a dilemma for the United States and the military.

GCI, Article 36 states aircraft must be marked with a distinctive emblem per Article 38. CGI, Article 38 describes the authorized emblems, to include a red cross on white background.\(^{45}\)
Article 36 outlines the detailed requirements for medical aircraft and establishes the legal basis for their protection. It asserts “aircraft exclusively employed for the removal of wounded and sick and for the transport of medical personnel and equipment, shall not be attacked, but shall be respected by the belligerents, while flying at heights, times and on routes specifically agreed upon between the belligerents concerned, and that unless agreed otherwise, flight over enemy or enemy occupied territory are prohibited.” Additionally the article states, medical aircraft shall obey every summons to land for examination. U.S. Army and Joint Doctrine recognize the importance of the article and highlight it throughout doctrine. It is in these contexts the U.S. MEDEVAC aircraft operate outside the exact letter of Article 36. Operating outside doctrine is recognized in doctrine. U.S. Army doctrine states if there is no agreement on routes, altitudes and times, belligerents use medical aircraft at their own risk and peril.

With the context of air superiority in counterinsurgency, stability and limited combat operations MEDEVAC aircraft fly directly to points of injury on direct routes. There is no established, shared or published routing for MEDEVAC aircraft. It is also a generous assumption that a pilot on a mission would land for inspection. A more realistic assumption is that no pilot would land his or her aircraft at the request of a belligerent for the sole purpose of inspection. In fact, this requirement is directly contradicted by the policy of the U.S. to evacuate casualties to the next higher level of care within one hour.

This aspect of the application of the Geneva Convention must be given more analysis. The reality of current and past conflicts has enabled the U.S. to avoid dealing with this issue. If held accountable to this article there would be significant implications for the crews themselves, the rules of engagement, and the escorts that accompany MEDEVAC. As the U.S. Army has focused on the protections afforded by Article 36 with marking aircraft, many of the secondary
and third order effects appear to be overlooked and the implications of selectively following the rules must be reviewed and analyzed. Further understanding may be gained by looking at the published commentary on the Articles and intent behind them.

“The Commentaries provide a historical perspective and highlight steps in the development of the law and serve as respected and essential interoperations of the Geneva Conventions.” It was understood that the ability to engage aircraft beyond the visual range would necessitate the sharing of routes. The commentary accounted for the changing technology used to fight wars, in particular, air defense weapons that could engage beyond sight. The result was strict criteria to ensure the protection of medical personnel and assets when executing this mission. Despite the understanding that technology was changing and would impact future wars, the Articles and the subsequent commentary do not account for the significant advances in technology on the battlefield. These changes include Cyber, Electronic Warfare, the integrated air defense systems employed by modern nations, or even the electronic marking of aircraft known as identification friend or foe (IFF). The commentary of 1952 also recognized flexibility in roles and missions.

“Accordingly, belligerents may use aircraft in multiple roles, for example sending transport aircraft to the front line carrying munitions and soldiers and, after unloading that cargo, transporting the wounded and sick or medical personnel and equipment away from the front. In the former case, the aircraft is not entitled to protection, nor to display the distinctive emblem; in the latter case, the aircraft will be entitled to all due protections and to display the distinctive emblem, so long as other articles of the Convention are complied with.”

The First Convention, Additional Protocol I and the commentary associated with each provide a great deal of flexibility as to which type of aircraft can qualify as medical aircraft and when. Additional Protocol I, specifically Articles 24-31 provides updated and more detailed...
descriptions on medical aircraft and their use. Of note, the U.S. is not a signatory party to Additional Protocol I.

There is no requirement to organize specifically for this mission to meet the intent of the Geneva Convention Articles, although this is exactly what the U.S. Army does. The Geneva Convention does not limit the use of the aircraft for other missions but only their use when marked for a specific mission, in this case MEDEVAC. If the Articles provide significant flexibility toward the execution of this mission, what then holds the U.S. Army to continue to mark aircraft with a red cross for this mission?

Perhaps it is not the Geneva Convention Articles, which limit the U.S., but its own practice and perception. The articles provide significant flexibility for nations to operate MEDEVAC. Despite the flexibility afforded by these rules, future conflicts present a potential challenge for the U.S. to comply with the rules that are held so close in both doctrine and practice. There is a perceived legal and moral obligation to mark aircraft that has evolved over 57 years of use. This customary use and obligation perceived by the military has shaped doctrine and MEDEVAC execution. Fifty-seven years of history have created a significant customary internal obligation for the U.S. with regard to MEDEVAC. The perception of trust created by this dynamic is at the core of this issue. It becomes critical for the U.S. to lead the world, uphold the rules and set the example. It becomes an important part of the profession to maintain and hold the moral high ground. Changing this dynamic and perception represents a significant hurdle, but understanding the details of the Geneva Convention Articles and thinking by the U.S. Army helps to start the process.
The Future, Doctrine, and Options

Large-scale combat operations of the future will be different from the recent wars fought by the U.S. Operations will be conducted beyond the “Golden Hour” and could generate massive casualties. Troops will likely have to become accustomed to waiting longer for evacuation. The capability to move medical assets where and when they are needed may not be the case in future conflicts. Adversaries of the future, unlike those we have faced with the wars in Iraq and Afghanistan or even as far back as Vietnam will challenge the forward movement and positioning of MEDEVAC. Considerations of enemy air defenses, enemy locations, and other effects will all challenge the ability to execute MEDEVAC. The recent war in Ukraine demonstrated the lethality of the future battlefield. In four minutes of artillery fire, battalion-sized units were virtually destroyed with casualties overwhelming medical units and facilities.

As the military grapples with these challenges of the future, there are gaps in the current capabilities. These gaps include aircraft capabilities, the number of assets available for the mission and standard of care to highlight a few. Both U.S. Army and U.S. Joint Doctrine acknowledge other methods of patient evacuation including the use of specially trained medical teams by U.S. Air Force Special Operations Forces (SOF) on board U.S. Army Special Operations Aircraft to evacuate casualties from austere locations far outside the reach of conventional support. These Special Operations Surgical Teams provide a robust example of a potential capability that could be modeled in a limited fashion to provide better flexibility to tactical aerial evacuation. Another recognized gap is the weather that limited the launching U.S. Army MEDEVAC aircraft. In particular, U.S. Air Force PEDRO aircraft were used when weather prevents the launch of U.S. Army MEDEVAC aircraft. PEDRO and other capabilities have been used extensively in recent wars and to successful end states.
In studies, these other platforms and capabilities are even recognized as more superior to U.S. Army MEDEVAC. In 2011 the Defense Health Board Committee on Tactical Combat Casualty Care had several key recommendations to improve care and standardization. These included using the most capable platform available (CH-47/CH-53/CV-22), consider the use of armed, armored aircraft, and to consider modular packages for deployment on tactical aircraft.

The Defense Health Board recommended changes and improvements in Tactical Combat Casualty Care, including aeromedical evacuation. This study identified the need for a new capability based on identified gaps in the current tactical aerial medical evacuation construct. The study developed and approved recommendations for improvements to the current care procedures across the services. It was recognized that MEDEVAC is often not permitted to deploy to hostile locations and delays would occur when it was the only available platform in a combat zone. The study recognized the British MERT (Medical Emergency Response Team) was one of the preferred assets in the Afghanistan theatre. Additionally, this decision provided an armed capability. Despite this “armed capability” the MERT still required escorts when flying into hostile areas. In Afghanistan, the MERT has been held from landing because of the situation on the ground. This is the same for any MEDEVAC aircraft attempting to land in a hot combat zone. The risk from enemy fire to any aircraft in combat is high, so while there will always be a component of self-protection to any aircraft landing, it should not be the overriding assumption on this decision, but perhaps just a part to the larger puzzle of how best to provide MEDEVAC in a future environment.

Although in these examples, the U.K. MERT and the U.S. Air Force PEDRO are both armed, that is not the overriding issue. Neither is marked. The challenge is getting to the injured or wounded service member with capability and capacity. Capability includes flying in
demanding weather conditions of low visibility, high altitudes, dusty and brown out landing zones to name a few challenges aircrew face when executing this mission. Capacity is the ability to care for one or multiple critically injured patients. Arming or not arming the aircraft is only one component of the argument, by marking the aircraft, the challenge in future wars will be adapting to meet the “Golden Hour” requirement with a defined asset.

Per the study, TACEVAC includes both MEDEVAC and CASEVAC assets. The study recommended utilizing the most capable platform, a CH-53, CV-22 or CH-47 in the development of future models. Absent from this list was the HH-60 MEDEVAC aircraft and highlighted was the recognition that the U.S. needs to develop an advanced care capability. A few of other existing capabilities could be further developed. Specifically the Special Operations Surgical Team could be combined with other platforms in the U.S. Army, such as the CH-47 or the Future Vertical Lift once complete. These would provide a MERT like capability that could serve as the core of the U.S. Army MEDEVAC. A team such as this has the potential to provide commanders and troops a potentially more responsive and capable asset. By narrowly defining the current MEDEVAC capability with a specific aircraft and marking it for medical evacuation constrains the flexibility of commanders to adjust systems to meet requirements and the complexity of future wars.

The Army further recognizes gaps in the DoD directive assigning authority to the Army with regards to better being able to accomplish this mission, “A DoDI describing ‘how’ the Army to execute intra-theater AE per DoDD 5100.01 would better posture the force for AE operations during future conflict.” Even the medical community seems to recognize the gaps in the requirement. Why did we need to have augmentation in Afghanistan – there was a 97 aircraft requirement for intra-theater evacuation. The existing capability did not exist within the U.S.
Army in 2012. In order to meet the mission requirements in Afghanistan, the U.S. Army required augmentation by the U.S. Air Force Pedro rescue crews, British MERT, and a mix of NATO forces. The reality is that there was not even enough total rotary wing aircraft in Afghanistan to meet all the mission demands and expectations of troops and the public.

Afghanistan is recognized as a helicopter war where demands for aircraft routinely exceed availability. The reality of asset constraints in a high demand environment strikes at the core of the argument for marking aircraft by the U.S. Army. This critical asset must be marked and allocated specifically for this mission. It is a DoD, and specifically a U.S. Army medical community, limitation and a fear that aircraft will be used for other purposes that seems to drive the use of marking aircraft with a red cross. This way of thinking is reinforced by public statements made by the U.S. Army such as, “while consistent with the Geneva Conventions, it also ensures aircraft use for no other missions; this is critical in austere locations where aircraft are in high demand”.

Flexibility must be built into the system in multiple places and points. How and where to leverage this flexibility is at the core of the matter. The U.S. Joint Trauma System addresses casualty movements. It focuses primarily on the movement of casualties from the point of injury. “The platform selected / used is dependent on the patient acuity, threat, mission requirements and location of sending and receiving facilities.” “Rotary wing platform will vary according to casualty and mission requirements.”73 The reality is this is generally not the case. There is one model for MEDEVAC, and that is the U.S. Army MEDEVAC platform regardless of threat or other considerations. Despite the augmentation of MEDEVAC assets in recent conflicts by U.S. Air Force para rescue crews, Pedro, and the U.K. MERT, the default response was to use Army
MEDEVAC. The doctrine calls for flexibility, but there is none in the system with the current construct based on a marked aircraft designated solely for this purpose.

**Conclusion and Recommendations**

“Innovation will be required to fight and win on future battlefields and it requires us to shed anachronistic concepts that aircraft can only perform singular functions and missions.” If the Army is truly an agile joint and coalition partner, then it will need to relook thinking and its assumption regarding MEDEVAC in the future. The U.S. Army has developed and refined the ability to evacuate wounded from the battlefield through specially trained aircrews, specialized equipment, and organization. If the priority and success of tactical aeromedical evacuation is going to continue in future wars and conflicts, it is time to rethink the fundamental assumption that tactical MEDEVAC must be marked and flown in accordance with Geneva Convention Article 36.

Described in an article on Forward Aeromedical Evacuation, “platforms represent a capability that will provide flexibility to commander and optimize scalable care methods.” Operations in this future start with changing the fundamental assumption that MEDEVAC are marked and designated. Unmarked tactical aircraft with the right medical capability in support of the aeromedical evacuation mission are a must to fight in future conflicts. It is not about the aircraft, but about the medical personnel and systems in the back that have always made the difference and will continue to make the difference in the future.

It is time to broaden the way of thinking about the assumptions about the employment of aeromedical evacuation assets. “We come from a society of improvisers, a society of innovators, tinkerers, problem-solvers, techno-savvy at early age, and independence of action comes naturally to all Americans.” It is time innovate thinking and change assumptions about
MEDEVAC. While no force does better than the U.S. Army in MEDEVAC, the force cannot rest on past success or models. With the responsibility for this capability placed on the U.S. Army by the DOD it is time to look forward and change thinking about MEDEVAC. The U.S. Army should leave behind the notion MEDEVAC aircraft are required be marked with a red cross. The U.S. Army must combine capability from the U.S. Joint Force and its allied partners with a new approach to improve this critical mission requirement. It is time to untether medical evacuation from an outdated concept that has the potential to be ineffective on the battlefields and wars of the future.

Notes

7 “AR 40-3 Medical, Dental, and Veterinary Care” (Headquarters, Department of the Army, April 23, 2013), 58.
8 “Joint Publication 4-02 Health Service Support” (Department of Defense, July 26, 2012), 1. (Medical evacuation (MEDEVAC) traditionally refers to USA, USN, USMC, and USCG patient movement using predestinated tactical or logistic aircraft (both fixed-wing and rotary-wing), boats, ships, and other watercraft temporarily equipped and staffed with medical attendants for en route care)
14 Samuel W. Sauer et al., “Saving Lives on the Battlefield (Part II) - One Year Later A Joint Theater Trauma System and Joint Trauma System Review of Prehospital Trauma Care in Combined Joint Operations Area -
Afghanistan (CJOA-A) Final Report, 30 May 2014” (BSA Fort Sam Houston, TX 78234: United States Army Institute of Surgical Research, July 1, 2015), 25.


16 This story was written by LTJG Sam Mason Affairs 2515th Naval Air Ambulance Detachment Public, “New Navy Air Ambulance Company Provides MEDEVAC Support,” accessed February 19, 2018, /submit/display.asp?story_id=23162.


19 “Joint Publication 4-02 Health Service Support” (Department of Defense, July 26, 2012), 117.

20 Ibid., 26.

21 Ibid., 158.


26 "Army Aeromedical Evacuation Campaign Plan 2020,” 8.

27 "AR 40-3 Medical, Dental, and Veterinary Care” (Headquarters, Department of the Army, April 23, 2013), 67.


30 “Army Statement on MEDEVAC Issue.”

31 Ibid.


33 Olson et al., “Forward Aeromedical Evacuation: A Brief History, Lessons Learned from the Global War on Terror, and the Way Forward for US Policy.”

34 “Joint Publication 4-02 Health Service Support,” 1.


36 “Army Statement on MEDEVAC Issue.”


38 Ibid.


40 Thomas Barrett, “Medical Evacuation and Exception by the United States,” October 9, 2017.

41 “Joint Publication 4-02 Health Service Support,” 117. CASEVAC, a term used by all Services, refers to the unregulated movement of casualties aboard ships, vehicles, or aircraft.


43 Article 36 of the Geneva Convention “1) Medical aircraft, that is to say, aircraft exclusively employed for the removal of wounded and sick and for the transport of medical personnel and equipment, shall not be
attacked, but shall be respected by the belligerents, while flying at heights, times and on routes specifically agreed upon between the belligerents concerned.

(2) They shall bear, clearly marked, the distinctive emblem prescribed in Article 38, together with their national colours, on their lower, upper and lateral surfaces. They shall be provided with any other markings or means of identification that may be agreed upon between the belligerents upon the outbreak or during the course of hostilities.

(3) Unless agreed otherwise, flights over enemy or enemy-occupied territory are prohibited.

(4) Medical aircraft shall obey every summons to land. In the event of a landing thus imposed, the aircraft with its occupants may continue its flight after examination, if any.

(5) In the event of an involuntary landing in enemy or enemy-occupied territory, the wounded and sick, as well as the crew of the aircraft shall be prisoners of war. The medical personnel shall be treated according to Article 24, and the Articles following.”


48 “Joint Publication 4-02 Health Service Support” (Department of Defense, July 26, 2012), 240.

49 “FM 4-02 Army Health System” (Headquarters, Department of the Army, August 2013), 73.


53 Ibid.


55 Ibid.

56 Thomas Barrett, “Medical Evacuation and Exception by the United States,” October 9, 2017, 7.

57 Ibid.

58 J. Ross Yastrzemsky, “To Arm or Not to Arm? An Examination of the U.S. Army’s Aeromedical Evacuation Procedures Through a Professional Lens,” Aviation Digest 2, no. 4 (December 2014): 37.

59 Ibid., 42.


62 “FM 3-0 Operations” (Headquarters, Department of the Army, October 2017), 21.

63 “Joint Publication 4-02 Health Service Support,” 85.

65 Nancy D. Dickey, Donald Jenkins, and Frank K. Butler, “Tactical Evacuation Care Improvements within the Department of Defense 2011-03,” n.d.

66 Ibid.
67 Ibid., 2.
68 Ibid., 3.


70 Dickey, Jenkins, and Butler, “Tactical Evacuation Care Improvements within the Department of Defense 2011-03,” 7.


72 Ibid., 8.


75 Ibid.


Bibliography


“AR 40-3 Medical, Dental, and Veterinary Care.” Headquarters, Department of the Army, April 23, 2013.

“AR 95-1 Flight Regulations.” Headquarters, Department of the Army, March 11, 2014.


“Army Health System Support to Maneuver Forces ATP 4-02.3.” Headquarters, Department of the Army, June 2014.


“Aviation Digest.” Doctrine Division, Directorate of Training and Doctrine (DOTD), U.S. Army Aviation Center of Excellence (USAACE), Fort Rucker, December 2014.


“DOD Dictionary and Associated Terms. pdf,” n.d.


“FM 3-0 Operations.” Headquarters, Department of the Army, October 2017.

“FM 4-02 Army Health System.” Headquarters, Department of the Army, August 2013.


ICRC. “Red Cross Red Crescent.” ICRC, 2014.


“MEDICAL EVACUATION ATP 4-02.2.” Headquarters, Department of the Army, August 2014. 


