Special Warfare Journal

The Professional Bulletin of the John F. Kennedy Special Warfare Center and School

PB 80-25-1 Summer 2025 Vol. 38, No. 1

PB 80-25-1

From the Editing Team

Summer 2025 Special Warfare Journal Vol. 38, No. 1

Cover Photo: Colonel Charles Fry, author of *Quiet Professionalism, Special Forces: No More Hot-Dogging (Photo credit: USASOC History Office)*

Collectively, we are in the greatest period of transformation since the post-Vietnam era Army. Even the Army's branch journals, through the recently established Harding Project, are undergoing transformation. So, how is the *Special Warfare Journal* being transformed? We, as the Editors-in-Chief (Harding Fellows) for the Special Operations Center of Excellence, have moved aggressively to revitalize the journal over the past year. Instead of the *Special Warfare Journal's* historically infrequent and erratic publication schedule, the journal now publishes articles *weekly* on the *Special Warfare Journal* webpage. After publishing an article, we highlight it through enterprise email distros, as well as through a growing social media presence (*Special Warfare Journal* Instagram). We are also working to improve our archives and we look forward to collaborating with the Army Software Factory to enhance the searchability of historical issues!

This Quarterly Edition marks a significant transition from previous themed editions of the *Special Warfare Journal*. The new Quarterly Editions will take recently published articles from the previous quarter and consolidates them for the *Special Warfare Journal* digital archive. This new format also harkens back to the original style, from 1988 to 2005.

While we are making progress, we will never be satisfied - we will keep improving the foxhole. For the journal to endure, we need to remain dynamic and relevant to the Special Operations and broader Army communities. We will continue to publish timely articles that are relevant to the Force. We hope you will join us over the next year as we continue this effort. With your contributions and engagement, we will help make our Army smarter, more efficient, and more lethal for the battlefields of tomorrow!

- From the Editors-in-Chief

PB 80-25-1

Contents

Summer 2025 Special Warfare Journal Vol. 38, No. 1

PERSPECTIVE FROM THE FORCE: NO MORE HOT-DOGGING

Originally Published: Oct. 2, 2025

Perspectives from the Force: No More Hot-Dogging

By Special Warfare Journal Editorial Staff

> **"We [a Special Forces Battalion] were assigned.... to a conventional Infantry Brigade... so there was kind of a wall between the conventional and Special Forces. And, in order to do anything, one of the first things I had to do down there was... I had to break that wall."**
>
> Colonel Charles Fry discussing his reasoning for publishing the article "Special Forces: No More Hot-Dogging."[01]

Integrity, esprit de corps, and disciplined conduct will be necessary to ensure the Army's readiness, cohesion, and ability to face threats effectively in future large-scale combat operations. Sometimes, in our drive to anticipate and prepare for this future, we overlook the invaluable lessons of the past. Some of those lessons were earned in blood; others were instilled in us due to the impact of transformational leaders. Within the Army special operations community, one such leader was Col. Charles Fry, a pioneer and legend within Special Forces. Col. Fry instilled a spirit of quiet professionalism in a generation of Green Berets. As our army anticipates the future battlefield and undergoes a period of transformation to prepare for the challenges ahead, Col. Fry's words echo through time reminding us of our duty to the profession and to each other.

Colonel Fry began his Army career as an enlisted Infantryman in 1951, serving in combat in Korea before eventually joining the Special Forces in 1954. Fry later commissioned as an infantry officer in 1961 and commanded both Special Forces and light Infantry companies in Vietnam during the Vietnam War. Colonel Fry became known as a Latin American specialist with a myriad of operational deployments throughout the region. When he assumed command of 3rd Battalion, 7th Special Forces Group (Airborne) in 1978, he immediately became concerned with a growing divide between his unit and the conventional 193rd Infantry Brigade it was assigned to. Identifying the integration of Special Forces and conventional forces as key to the Army's collective success, Col. Fry immediately moved to bridge the divide. He corrected the brash culture within his battalion and took the time to educate conventional commanders on Special Forces' capabilities.[02]

The result was a resounding success, and the culture of "quiet professionalism" became synonymous with the culture of Green Berets.

This edition of the *Special Warfare Journal's* "Perspectives from the Force" underscores the importance of "quiet professionalism" as we prepare for tomorrow's war. See Col. Fry's original Army Times article from May 1979 below:

QUIET PROFESSIONALISM
Special Forces: No More Hot-Dogging

By Colonel Charles Fry, U.S. Army Special Forces

FORT GULICK, C.Z. [Panama Canal Zone]— We read with a great deal of interest the March 5 Army Times, "Bo Gritz: Another Green Beret Casualty," announcing his surprise retirement. It touched a number of our concerns, the most important of which is the future of the Army, and how Special Forces fits into the defense of our nation. We have felt the pressure of "the Army's attitude toward unconventional warfare, and the emphasis on conventional warfare." But Bo knows that has always been our Army's attitude. Our Army is a conventional Army trained and dedicated to winning a conventional war against a predominantly conventional enemy force. We entered the conventional Army, we all have conventional MOSs and are now entrusted to employ unconventional techniques to support the conventional commanders to prepare for and win wars. If we don't have the conventional Army to win the big one, we just wouldn't have much of a job, would we?

We remember last year how happy Bo Gritz — our former commander — was because we were getting a commander who "had been around a long time," "had nothing to lose" and could therefore "ruffle feathers," fall on his sword, speak up for SF and demand "special treatment" from a "conventional commander." We know that we are good because of what we are and we neither hide it nor are we ashamed of it.

This may surprise some, but we sat back and took another look at ourselves and our attitudes as well as the other problem facing SF today — that we don't have many conventional commanders who understand the capability of the Green Berets. We agree that they see us as "a lot of overpaid, cocky guys… who spend our time… making them look bad during training exercises..." But our battalion has been working to change that perception.

We hesitate to tell Bo this because we love and respect him for his contribution to Special Forces, but we know he believes in telling it like it is. We just haven't done a good job over the years of selling ourselves and our capabilities to the conventional commander. Yes, we remember those training exercises starting in 1952. Boy, did we tear up those unprepared, young conventional company and battalion commanders. We embarrassed them by making their troops look bad. They weren't prepared to react to behind-the-line operations and we ran rampant. Remember in Sagebush 1955, when we damn near stopped a multi-division training exercise?

Gen. Paul D. Adams said we were a “disorganized” mob, took us out of the maneuver, and took our Green Berets away. We earned them back by being more professional but it took seven years. Remember how we treated the conventional units when they came into our area of operations in Vietnam? Do you know where those commanders that we ridiculed and poked fun at are today? They are running the Army. They are even in Force Development at DA. Who is laughing now?

Why were we so arrogant and cocky? Why didn’t we advise, train and establish rapport and confidence with our own? Why didn’t we do then what Lt. Gen. Harold R. Aaron says we have to do now? Convince our conventional leaders of our value in helping them prepare for and win the big one by quiet professionalism, not by being aggressive and brash.

We have decided not to be aggressive and brash nor to ruffle feathers. We believe in quiet professionalism. We still tell it like it is but we do it in a constructive manner, get the message across. We also have learned to listen when someone tells us like it is. We believe we are going to exist as Special Forces, and if our Army is going to be prepared to defend our nation, we need each other. Quiet professionalism really works. We are the only SF Battalion assigned to a tactical conventional brigade. We think the brigade — the 193d Inf — is pretty proud of us and we are proud of the brigade too. We have helped make the brigade one of the best if not the best-trained brigade in the Army. As a result we feel our battalion is the best-trained SF battalion in the force structure, because the brigade supports real SF training for us. And we have a conventional commander, who will soon put on his second star, as well as a CINC — fighting like hell to keep us in the force structure. All we did was to stop ridiculing and start advising, teaching and working to help make the conventional units better prepared and the fallout was greater training opportunities for SF tasks.

During a recent JCS exercise in the Canal Zone, one of those commanders who thought that we were “arrogant, disorganized, overpaid, cocky, typical SFers” when he arrived, told our commander after four days of work with our teams: “My impression of SF has changed. Your guys are true professionals. They want my troops to learn, to meet their high standards. I was ready to see a bunch of guerrillas with ‘Death Before Dishonor’ T-shirts, but they are all in the same uniform and they care about us learning.” Quiet professionalism works.

We aren’t “yes men” and we are trained and ready to go into denied areas and perform special tasks on a moment’s notice. At the same time, we are gaining the special trust and confidence of our conventional commanders, which is vital to our existence.

We are not throwing in the towel yet. We are going to be in the force structure somewhere, even if we have to […] between missions. We have had our ups and downs over the last 27 years. If we can get quiet professionalism working at all SF levels we can eliminate some of the downs and be around to do our thing when we are called to defend the flag.

MEMBERS OF 3D BN, 7TH SFG(A)

COL Charles H. Fry

SCUBA/MFF pioneer, Latin American Specialist, Special Operations Command-South Commander (1933–2022)

For more information about the life and career of Colonel Fry see the USASOC History page https://arsof-history.org/icons/fry.html (Image credit: USASOC Command History Office)

Authors' Notes

Colonel Charles "Chuck" H. Fry enlisted in the U.S. Army in 1951, serving as a combat infantryman in Korea before joining Special Forces in 1954. He became an early pioneer in underwater and HALO operations, as well as numerous other initiatives. After commissioning as an officer through OCS in 1960, he went on to serve as an Airborne and Pathfinder instructor and later commanded Infantry and Special Forces units in Vietnam. His Army career included extensive counterinsurgency advisory work in Latin America and culminated as the Commander of Special Operations Command – South. Fry received the Bull Simons Award in 2009 and became a Distinguished Member of the Special Forces Regiment in 2013 for his lifetime contributions to special operations.

Major John Byrnes is a pseudonym for an active-duty Regular Army Soldier and Civil Affairs Officer with a background in Infantry and Special Operations. He is a graduate of the United States Military Academy and the National Defense University, and he currently serves as an editor for the Special Warfare Journal.

Chief Warrant Officer 4 William Bryant is a career Regular Army Soldier and Special Forces Officer (180A) with over 24 years of service. He is a graduate of the School of Advanced Military Studies and the Air Command and Staff College, and he currently serves as the Special Operations Center of Excellence Harding Fellow.

The views, opinions, and analysis expressed do not represent the position of the U.S. Army or the Department of War.

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01 ARSOF History, *COL Charles H. Fry, part 6*, oral interview accessed 23 September 2025 from ARSOF History.org YouTube.

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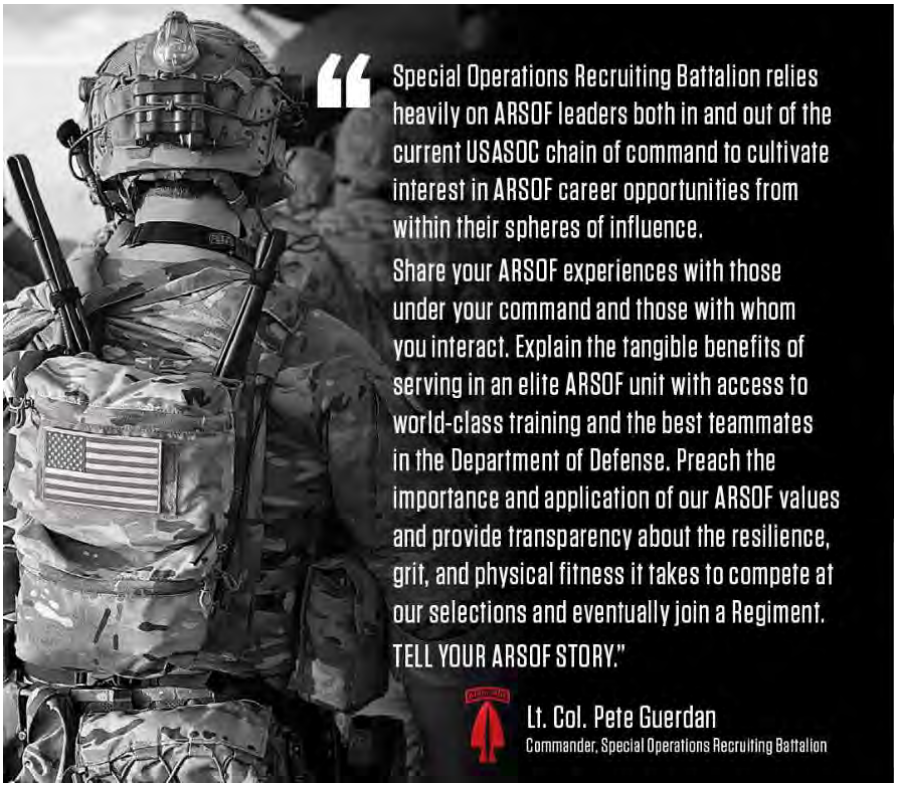
Originally Published: March 20, 2025

Operators Wanted: SORB Navigating the Recruiting Challenges Facing the Army
By Lt. Col. Pete Guerdan, MAJ Jim Maicke, and MAJ Jonathan Mleynek

The Army is working to overcome recruitment and retention issues at a time when the nation is facing new geopolitical challenges. Those recruitment issues are many and come with consequences, including how the Army's special operations forces recruit, select, train, and man units with important ongoing overseas missions and commitments. The Special Operations Recruiting Battalion (SORB) is currently assisting the United States Army Special Operations Command (USASOC) with navigating this recruiting challenge. This article discusses the obstacles to recruiting, the SORB mission, and a growing initiative that will benefit the special operations community and the wider Army as we train and fight together to stay ready to protect the nation.

RECRUITING IN THE CURRENT OPERATIONAL ENVIRONMENT

Years of recruiting challenges have culminated in the Army's current manning mission being more strained than it has been in long time. One consequence of the recruiting challenge is that Army Special Operations Forces (ARSOF) now pull from a smaller pool of qualified active-duty Soldiers and officers. An additional issue is that ARSOF's in-service recruiting previously benefited from over 20 years of the Global War on Terror (GWOT). Soldiers from the conventional force were frequently collocated and interacted with ARSOF units across Operation Enduring Freedom, Operation Iraqi Freedom, and Operation Inherent Resolve theaters of operation. Those Soldiers, and future assessment and selection candidates, were naturally inspired to pursue ARSOF career paths upon redeployment. The end of that unit interaction produced a knowledge gap that current in-service ARSOF recruiters are forced to overcome. More than ever, Soldiers in the conventional force seem to know less about who ARSOF is, what they do, or the value of pursuing an ARSOF career path.



THE SPECIAL OPERATIONS RECRUITING BATTALION

The SORB, headquartered at Fort Bragg, North Carolina, is the only U.S. Army recruiting organization specifically designed, manned, trained, and equipped to recruit in-service Soldiers and officers to attend ARSOF assessment and selection courses. The SORB's in-service recruiting portfolio also includes the recruitment and processing of candidates who seek to join the Army warrant officer (WO) and explosive ordnance disposal (EOD) ranks. While the SORB mission focuses on in-service recruitment, the United States Army Recruiting Command (USAREC) focuses on initial entry and civilian service contract options including: 18X (Special Forces Candidates), 37F (Psychological Operations Specialists), OPTION 1 (160th SOAR Candidates), and OPTION 40 (75th Ranger Regiment Candidates).

The SORB comprises over 160 military and civilian personnel globally dispersed across 18 Army installations. Each SORB station is tasked with facilitating engagements between Special Forces (SF), Civil Affairs (CA), Psychological Operations (PO), 160th Special Operations Aviation Regiment (SOAR), WO, and EOD recruiters and the Soldiers stationed within its sub-divided areas of responsibility. Ultimately, the goal is to send qualified candidates to assessment and selection courses or boards. The SORB companies, A through D Company, are led by senior Special Forces majors (O-4s) aligned with four, of the five, active-duty Special Forces Groups (SFGs:1st, 3rd, 5th, 7th).

When a Soldier is interested in applying to an ARSOF assessment and selection course, SORB stations assist candidates with completing their individual packets for submission—to include

assisting the candidate with any waivers they may need. The SORB recruiters also organize and run numerous ARSOF assessment and selection preparation events for both enlisted and officer candidates that include: physical training programs, key leader engagement, cognitive practical exercises, ruck packing classes, packing list layouts, and land navigation training events.

SORB & THE OPERATIONAL FORCE: MUTUALLY SUPPORTIVE

To combat the current lack of awareness across the Army and joint force about the ARSOF mission, capabilities, and organizations, SORB—using its broad reach—has begun to expand interactions between ARSOF and conventional forces by funding ARSOF training events with conventional force units at various locations.

These engagements allow interested soldiers to see and experience a “day in the life” of an operator by walking through one of the 1st Special Forces Command (Airborne) ARSOF footprints, team rooms, training facilities, or unique equipment locations while learning the history of certain ARSOF units and being immersed in the lifestyle of an ARSOF Soldier firsthand.

SORB can provide funding for an ARSOF unit event or a small group of ARSOF officers and noncommissioned officers to support recruiting initiatives. If you or someone you know would like to support a SORB-funded event, contact a SORB Recruiter.

CONCLUSION: HOW CAN YOU HELP?

Everyone in the ARSOF community needs to act as a recruiter to improve the readiness of our force. Only 25 total Special Forces non-commissioned officers and six Special Forces officers serve within the SORB globally. Civil Affairs and Psychological Operations only have 18 noncommissioned officers recruiting for their branches.

Each member of the ARSOF community needs to work to encourage our fellow Soldiers in the wider Army to physically visit one of the eighteen SORB recruiting stations and talk to a recruiter. Mentor those civilians you meet that do not have prior service experience and encourage them to aggressively pursue 18X, 37F, Option 1, or Option 40 contracts with their local Army recruiting stations. All future candidates for ARSOF selections can follow GOARMYSOF on social media and visit www.GoArmySOF.army.mil to learn more about the ARSOF tribes and their unique missions.

Finally, we encourage ARSOF Soldiers to apply to serve. This important mission needs officers willing to serve in SORB at the O-4 rank (SORB CO CDRs, SORB S3, SORB XO, SORB Chief Marketing Officer) by applying in the AIM 2.0 Marketplace and through your respective ARSOF chain of command. The force also needs our best ARSOF NCOs (E-6, E-7, E-8) serving as SORB Recruiters. These ARSOF NCOs are often the first impression of the ARSOF Regiment for those interested and inquiring for the first time. For those unable to move over to SORB, it is still possible to contribute by volunteering for a "Hometown Recruiting" engagement in conjunction with TDY and leave.

The Army is facing many challenges, and the Army's challenges are ARSOF's challenges. Recruiting the next generation of ARSOF Soldiers is a responsibility we should all pursue aggressively. We owe this to ourselves, and we owe it to our nation. If you have any additional ARSOF recruiting questions, please contact: https://www.goarmysof.army.mil/Get-Started/Contact-a-Recruiter/

Originally Published: March 28, 2025

Joint Special Operations Medical Training Center: Transformation and Modernization
By Maj. Brett Ambroson and Col. Amy Bogiel

The United States Army special operations forces (SOF) operate in a near continuous state of transformation and modernization. During the last two decades of conflicts in the Middle East and the wider world, these transformations happened at a rapid pace, often placing significant strain on force generators, such as the U.S. Army John F. Kennedy Special Warfare Center and School (USAJFKSWCS) and the U.S. Army Training and Doctrine Command (TRADOC). Now, the U.S. military is requiring its commands to dramatically change their tactics and training in anticipation of large-scale combat operations (LSCO) against peer and near-peer adversaries.

As a part of this transformation, SOF must refocus education and training efforts to operate in large areas of denied space, likely without air cover or reliable communications. This change in operating environment will require SOF medical training to adjust how it produces and prepares SOF medics to perform in austere and denied areas–from point of injury to evacuation. Indeed, while SOF medics have pioneered much of the prolonged field care concept, they must now be prepared to hold a patient for much longer than the standard 72 hours.

The Joint Special Operations Medical Training Center (JSOMTC) is the primary medical training center for enlisted special operations medical providers within the United States Army Special Operations Command (USASOC), and Marine Special Operations Command (MARSOC). The schoolhouse teaches multiple courses to include Special Operations Combat Medic, Special Forces Medical Sergeant, Special Operations Civil Affairs Medical Sergeant, and two sustainment courses: Special Operations Combat Medic Skills Sustainment Course and Special Forces Medical Sergeant Skills Sustainment Course.

This article will focus on each course within Joint Special Operations Medical Training Center and how they are transforming to produce a modern special operations medic prepared to overcome the challenges of current and future SOF operational environments, to include LSCO and Irregular Warfare.

SPECIAL OPERATIONS COMBAT MEDIC

The Joint Special Operations Medical Training Center is an Army run medical school located at Fort Bragg, N.C., home of Army special operations. Army combat medics, Rangers, Special Operations Aviation Regiment flight medics, Civil Affairs medics, Special Forces medics, and Navy Special Amphibious Reconnaissance Corpsman all attend the Special Operations Combat Medic Course of instruction for their next level of training to becoming a special operations combat medic.

A student in the Special Operations Combat Medic Course at the U.S. Army John F. Kennedy Special Warfare Center and School treats a simulated patient during field training at Fort Bragg, North Carolina February 23, 2023. Enlisted service members who completed the course specialize in trauma management, infectious diseases, cardiac life support and surgical procedures and qualify as highly trained combat medics with the skills necessary to provide initial medical and trauma care and to sustain a casualty for up to 72 hours. (U.S. Army photo illustration by K. Kassens)

The Special Operations Combat Medic course is a nine-month rigorous foundation course on which all other Joint Special Operations Medical Training Center courses are based. Special operations combat medics are then either sent to their gaining unit for additional pipeline-specific medical training (75th Ranger Regiment, 160th Special Operations Aviation Regiment, or USASOC) or stay at the Joint Special Operations Medical Training Center for follow-on education in the Special Forces Medical Sergeant or the Special Operations Civil Affairs Medical Sergeant courses. Special operations combat medics have seen many changes over the last decade and continue to evolve to meet the rapidly changing needs of the force while keeping pace with advances in medical technology.

Since the COVID-19 pandemic, recruitment into SOF medical pipelines has decreased, leading to fewer students. To combat the reduction in the number of applicants, the Special Operations

Combat Medic Course started to utilize human performance enablers within USAJFKSWCS to coach students on interpersonal relationships, teamwork, managing conflict, study design, and lifestyle changes. The Special Operations Medic Course enhances student performance through personal and educational coaching strategies, resulting in more competent medics. The course plans to formalize training in these key areas to build on this success.

Over the last year, the Special Operations Medic Course reorganized its trauma-specific training blocks to teach DoD-specific tactical combat casualty care with the addition of advanced lifesaving surgical skills. Prior to this change, a version of advanced trauma life support was combined with informal tactical combat casualty care training, which produced exceptional medics, but there were concerns about the interoperability with international and partner forces. The move to formal Defense Health Agency (DHA) tactical combat casualty care education helps SOF medics speak a common language with conventional forces, international allies, and partner forces. In the future, the Special Operations Combat Medic Course will continue to update the curriculum along with the DHA tactical combat casualty care guidelines and assist in creating and teaching an advanced provider tactical combat casualty care, which includes surgical skills already taught in the course.

A Soldier with 10th Special Forces Group (Airborne) conducts combat casualty care in a training environment at UCHealth Memorial Hospital Central in Colorado Springs, Colorado, Sept. 22, 2023. To keep their medical certification, Special Forces medical sergeants are required to work at a civilian medical center every three years. (U.S. Army Photo by Staff Sgt. Michael Wood)

As seen in the Ukraine conflict and extrapolated to a wider consideration of large-scale combat operations, prolonged field care and prolonged casualty care will play a large part in how casualties are treated—especially in the denied environment where SOF may operate. This part

of casualty care has always been taught to SOF providers as they often treat patients with prolonged evacuation times, resulting in long periods of patient care prior to moving patients to a higher-level of definitive care. However, there has been new focus among conventional forces and the emerging Irregular Warfare curriculum on the importance of long-term care of patients. Given this increased prioritization, the Special Operations Combat Medic Course adjusted curriculum to include more prolonged field care education and training. Part of this adjustment was a focus on telemedicine and technological adjuncts, which ground force medics can use to communicate with higher levels of care while treating a critical medical or trauma patient. In the future, when more guidelines are available from the Joint Trauma System and United States Special Operations Command (USSOCOM), prolonged field care training will be further expanded and emphasized within the context of deployed medicine.

As a part of a global modernization and transformation, the Special Operations Combat Medic Course is in the early stages of planning a system-wide curriculum re-organization. Over the years, research has shown more efficient ways of teaching and learning in an advanced educational environment. Multiple medical schools and institutions of higher learning have moved from traditional didactic and clinical learning environments. Education is now focused on instructor-facilitated small groups, system-based learning, clinical scenarios, and increased use of technological adjuncts. The Special Operations Combat Medic Course plans on moving toward this style of teaching and learning to provide a well-rounded and educated baseline SOF medic.

SPECIAL FORCES MEDICAL SERGEANT

The Special Forces Medical Sergeant Course is the follow-on course for special operations combat medic that produces special forces medical sergeants (18D) and special operations independent duty corpsmen destined for MARSOC duties. The course builds on the Special Operations Combat Medic Course in medical and surgical fields. There is a more focused approach to austere and resource-limited medicine.

As a part of the modernization and transformation of SOF-specific combat medicine and Irregular Warfare, the Special Forces Medical Sergeant Course has increased clinical rotation sites to austere and resource limited environments. Education focuses more on team health and team operations when outside standard medical facilities.

In the future, some elements of clinical medicine and advanced clinical skills will be pulled from the Special Operations Combat Medic Course and placed into the Special Forces Medical Sergeant Course curriculum. This further delineates the differences in advanced SOF providers, such as 18Ds and special operations independent duty corpsmen, and the special operations combat medic. These curriculum changes will allow a more streamlined course that sends qualified special operations combat medics out to the force in an expedited manner without degrading their training or capabilities.

CIVIL AFFAIRS MEDICAL SERGEANT

The Special Operations Civil Affairs Medical Sergeant Course is the Civil Affairs follow-on course for special operations combat medics and produces Civil Affairs medical sergeants (38WW1). The Civil Affairs Medical Sergeants Course builds on the Special Operations Combat Medic Course with instruction in population health, crops, veterinary medicine, global health engagement medicine, and preventive medicine.

As a part of the modernization of Special Operations Civil Affairs medical sergeant medics, the course has adapted curriculum to address prolonged field care in a civil affairs working environment. One adaptation unique to special operations Civil Affairs medical sergeant is a full-length prolonged field care scenario during their final training exercise, Operation Sluss-Tiller. In this exercise, the medic must care for a patient from the point of injury while evacuating out of an austere environment, somewhere in Pineland, for a full 48 hours.

In the future, continued emphasis on Irregular Warfare and population health will be utilized as the Special Operations Civil Affairs Medical Sergeant Course re-organizes its education curriculum to better align with future conflicts and the needs of the 95th Civil Affairs Brigade.

MEDICAL SKILLS SUSTAINMENT COURSES

Students in the Special Forces Combat Medic Refresher Course at the U.S. Army John F. Kennedy Special Warfare Center and School carry a simulated patient during casualty training at Fort Bragg, North Carolina, Oct. 27, 2020. Enlisted service members who completed the course specialize in trauma management, infectious diseases, cardiac life support and surgical procedures and qualify as highly trained combat medics with the skills necessary to provide initial medical and trauma care and to sustain a casualty for up to 72 hours. (U.S. Army photo by K. Kassens)

The two sustainment courses at Joint Special Operations Medical Training Center are unique in that they pull students from the entire spectrum of SOF medicine, including NATO partners and

federal entities. Most students have already completed the Special Operations Combat Medic, Special Forces Medical Sergeant, or Special Operations Civil Affairs Medical Sergeant courses. These courses refresh providers on up-to-date best practices in military medicine, tactical combat casualty care changes, and renewal of certifications. Refresher courses are also an opportunity to bring information on patient care and challenges faced in the field from the various SOF units in the DoD into one forum. Through this forum, the curriculum can be adjusted in real time to continue providing the SOF enterprise with the most up-to-date combat medic.

As a part of continued modernization in refresher training, these courses integrate newer technologies in ultrasound, ventilators, telemedicine, and prolonged field care, to name a few. One of the more transformative technologies has been the use of advanced cadavers as training aids for surgical skills and casualty management. Training facility improvements will include additions that support high-angle rescue, atypical casualty evacuation scenarios, subterranean and bunker medicine, and other scenarios relevant to the current Ukraine conflict and other world hot spots.

CONCLUSION

The Joint Special Operations Medical Training Center is a unique schoolhouse and organization that teaches a broad scope of combat medicine to students from multiple specialized medical entities and units. The school is constantly evolving due to the nature of civilian and military medical advances. The adjustment of the Joint Special Operations Medical Training Center's focus from counterterrorism and counterinsurgency medical contexts back to a large-scale combat operations context, with an emphasis on Irregular Warfare, is already occurring with some far-reaching curriculum reforms on the horizon. Focusing on future facilities with 21st century technological capabilities, advancing instructor training on facilitative small group teaching, enhancing the student experience, and enabling more efficient learning will help provide an exceptional SOF medic to the force for future conflict.

Originally Published: May 1, 2025

Digital Twins for a Digital World: Data-Driven Training Optimizing the Ready Medical Force
By Col. Paul O. Kwon, Dr Gary P. Zientara, Cmdr. Darshan S. Thota, George Matook, Maj. William T. Davis, Dr William Y. Pike, Maj. Allison J. Brager, Col. Jeremy C. Pamplin

As the military transitions its focus to large-scale combat operations (LSCO) within the context of the multi-domain doctrinal concept, significant challenges facing the military health system were identified for which there are no immediate solutions.[01,02] Alongside this shift in focus, strategic documents and senior military leaders suggest that ubiquitous data collection, robust cyber-secure networks, massive processing power, and scalable artificial intelligence (AI) constitute a technological revolution that is changing the character of war.[03] The military health system's ability to deliver tactical combat casualty care must evolve along with doctrinal and technological changes. The military health system needs to seize the opportunity to rapidly shift its priorities and resources to address these changes. This article helps address the imminent yet unwritten requirement to apply emerging technologies to military medical training.

Through passive data collection, robust data analysis, and future modeling with AI tools, the Army can accelerate an individual's acquisition and sustainment of essential medical knowledge, skills, and abilities by applying *digital twins* to military medical training. The term digital twins, for the context of this article, refers to the virtual representation of physical objects, processes, or systems. We introduce the concept of *humanoid digital twins* as a construct to predict the personalized training needs of individual soldiers to improve the ready medical force. The article highlights a use case named Measuring and Advancing Soldier Tactical Readiness and Effectiveness (MASTER-E) program, similar to professional sports activities, as exemplars of data-driven personalization of training and readiness. Finally, we emphasize some significant challenges within modernization and innovation regarding this emerging technology.

CURRENT MILITARY MEDICAL TRAINING

To adequately prepare a ready medical force for the future fight, it is imperative that the military health system conducts realistic training to address challenges identified by threat-based and scenario-driven assessments. Training should improve combat medical performance

under tactically relevant stressors, but is today's training effective? Current military medical training focuses heavily on the acquisition and sustainment of individual knowledge, skills, and abilities based on programs of instruction. However, the delivery of most tactical combat casualty care is within a system-of-systems: a care continuum from the point of injury through Role 4, including casualty evacuation, medical evacuation, and strategic evacuation, which also involves collective team performance.

The military health system has minimal training environments to test this care continuum under tactically relevant stressors. Specifically, limitations exist in testing the system's ability to manage casualties due to the lack of casualty and contextual realism and medical decision-making during large-scale exercises. Medical decision-making is complex, nuanced, and dependent on resource availability, environment, and mission.[04]

Without realistic casualties, sufficient medical supplies, and realistic casualty outcomes within a realistic care context, medical decision-making during training may not reflect actual medical decision-making during combat. While individual training remains essential, future success depends on improving and continuous assessments of the care continuum and (individual and collective) team performance. A continually measured performance-based learning ecosystem will enable data driven models to review and reassess outcome performance metrics over time.

Furthermore, training centers often rely on manikins that may not fully capture the entirety of the casualty care experience, are costly and time-consuming to maintain, and require highly trained personnel to utilize the equipment. Current manikins lack modularity, interoperability, scalability, and sensor data feedback with appropriate automated physiologic responses to medical interventions.

Lastly, systematic and personal bias may exist depending on the training environment and instructors' experience. Instructors may be unfamiliar with tactical combat casualty care under actual circumstances or lack knowledge about physiology, injury progression, or treatment side effects. This contributes to sub-standard and insufficient feedback for trainees regarding critical thinking and decision-making under realistic operational training environments.

DIGITAL TWINS AND ARTIFICIAL INTELLIGENCE

Today, digital twin technology is more prevalent within modeling and simulation (M&S). According to the Government Accounting Office, a digital twin is defined as a "virtual representation of physical objects, processes, or systems—like factories, traffic patterns, and even people…to predict how changes may affect its physical counterpart."[05]

Some common-use examples of data twin technology have become routine for the everyday user as the data architecture is well established. To improve efficiency and effectiveness in planning and directing trips on the road, GPS mapping companies use modeling to optimize traffic flow for individual users.[06] Package delivery companies update deliveries based on new

orders, delivery vehicle availability, delivery addresses, and traffic patterns in real-time based on sensor input distributed across the supply chain.[07]

TABLE 1: DEFINITIONS OF TERMS[21,22]

Machine Learning provides a set of algorithms designed to learn patterns and trends from historical data. The purpose of machine learning is to predict future outcomes and generalize beyond the data points of the training set without being explicitly programmed. There are two main types of machine learning algorithms:

- **Supervised Learning** is concerned with teaching a model on a labeled training set of historical data. It learns the relationship between inputs and outputs and then measures how accurately a model predicts the outputs for a test (or validation) dataset with known outputs. In this way it can be used later to make predictions on completely new data.
- **Unsupervised Learning** is a class of machine learning algorithms that can learn the underlying structure of a dataset without being provided a target variable. Unsupervised learning is used to discover common patterns in data, group the values based on their attributes, and then later make predictions on unseen data.

Artificial Intelligence (AI) a branch of computer science that involves using machine learning, programming, and data science techniques that enable computers to behave intelligently. AI systems are broad and have varying degrees of complexity.

Artificial Neural Networks is a machine learning model that is loosely inspired by biological neural networks in human brains. Neural networks consist of layers (10s-100s) of interconnected units called neurons. Conceptually, an artificial neural network has the following types of layers: input, output, and hidden layers used to filter the data through, process it with an activation function, and make predictions at the output. Artificial neural networks are the building blocks of a subset of machine learning called deep learning, which delivers complex outputs such as image or sound recognition, object detection, language translation, and more.

Deep Learning is a subset of machine learning algorithms based on multilayered artificial neural networks. Artificial neural networks are very flexible and can learn from huge amounts of data, to deliver highly accurate outputs. They are often behind some data science and machine learning use cases such as image or sound recognition, language translation, and other advanced problems.

Data Pipeline is a set of data processing scripts that are linked, thus automating the flow of data through an organization where data is extracted, transformed, and loaded so it's ready to be used.

Live, Virtual, Constructive Training Environments is a live simulation refers to real people and real systems; virtual simulation refers to simulated systems operated by real people; constructive simulation refers to simulation computer models where all formulated scenarios exist.

To understand digital twins, it is crucial to comprehend "deep learning" and "neural networks." Deep learning is a method to train AI systems composed of neural networks, a method in artificial intelligence (AI) that teaches computers to process data in a way inspired by the human brain to impute knowledge from large datasets.[08] In this methodology, multiple computational "layers" process complex, high-dimensional data iteratively to identify meaningful patterns within the data. In this process, instead of a software programmer producing a series of "if-then" statements to help a computer recognize <chairs> by identifying

legs, a back, and a horizontal surface for sitting, a data scientist provides thousands-to-millions of images labeled as <chairs> and a similar dataset labeled as <not chairs> and allows the computer to segment the images according to pixel patterns to identify a pattern that predicts <chairs> accurately.

Typically, an additional dataset of <chairs> and <not chairs> is used to validate the neural network's predictions. Where predictions are incorrect, the model can be refined and reprocessed. In supervised (using labeled datasets and human-derived rules) and unsupervised (computer-generated pattern recognition only) machine learning, selecting the best models to fit available datasets and validating model outputs is essential.[09] Table 1 provides terms, definitions, and concepts related to data, modeling and simulation, AI, and machine learning.

APPLYING DIGITAL TWINS TO CASUALTY CARE AND HUMAN PERFORMANCE

An example of an Army application regarding humanoid digital twins involves a complete simulation of the internal anatomy of the human body. The humanoid digital twin is fully articulated, animated, and possesses simulated physiology and biomechanics. A humanoid digital twin with complete internal anatomy was introduced in the last decade to provide an initial Army test bed for military performance research.[10] Comparison of the humanoid digital twin's monitored physiology data against experimental protocols has shown a high degree of correlation.[11] More importantly, humanoid digital twins can be tasked to perform in extreme environments of temperature, altitude, and other environmentally hazardous circumstances in a virtual world that is safe and replicable based on external and internal inputs.

Training with a virtual representation of a live Soldier can result in human performance improvements comparable to professional athletes. According to the Director of Performance Innovation Business Operations at the United States Olympic and Paralympic Committee, Mike Levine, "Utilizing advances in AI and computer vision, we've been able to track and study personalized analytics from a variety of sports to determine the strengths and deficiencies in an athlete's movement and help them make data-informed training and competition plans that can help them improve their performance, as well as their own health."[12] These technologies can provide a foundation for a comprehensive understanding of human (individual and collective team) performance and enhance decision-making through AI-driven optimization by leveraging incremental improvements via micro-learning tasks that are targeted and personalized to the user.

We present a use case called the Measuring and Advancing Soldier Tactical Readiness and Effectiveness (MASTR-E) Program. Currently, this is the largest human performance science and technology program within the U.S. military. Similar to professional sports teams, it creates quantifiable metrics by sensing human physiology (through the use of wearable sensors) to forecast performance (Figure 1).[13,14,15]

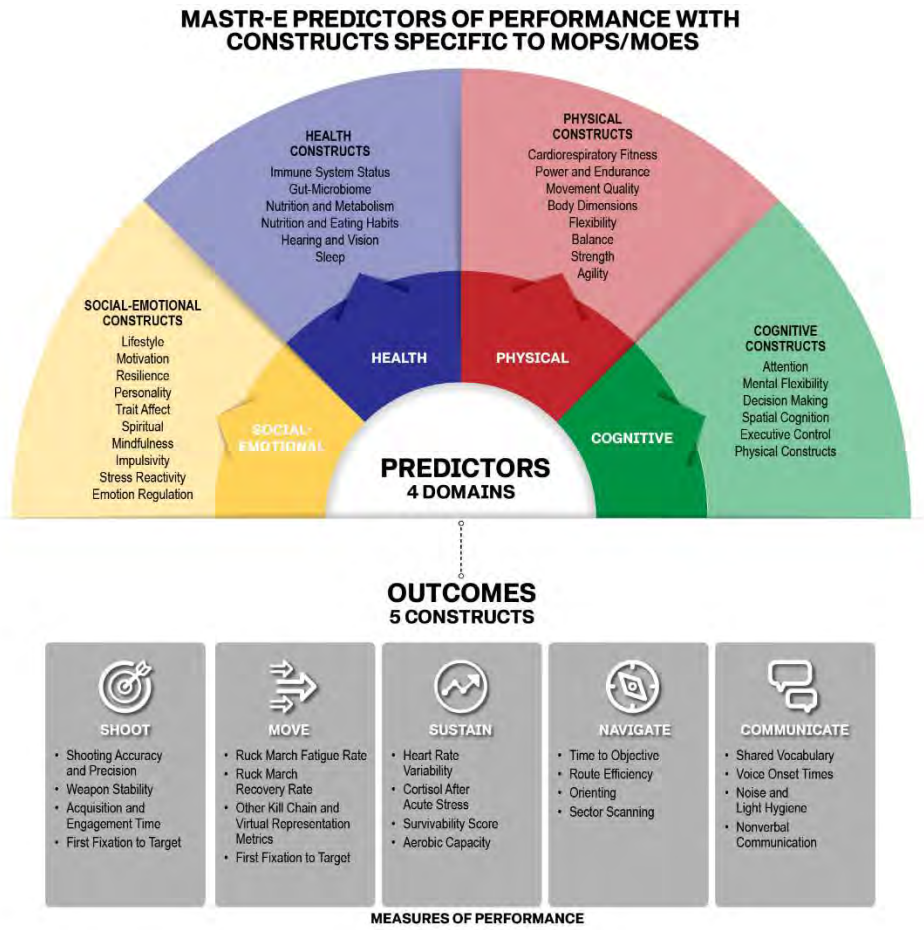


Figure 1. MASTR-E predictors of performance (social-emotional, health, physical, and cognitive) with constructs specific to Measures of Performance (MOPs) and Measures of Effectiveness (MOEs).

This modeling approach will be applied to the other operational domains critical to Soldier performance, including Move, Sustain, Navigate, and Communication (Figure 1). Future directions of this work include a focus on the degradation of the Soldier over time and measures of lethality, identifying unique combinations of features that better classify sub-populations, defining aggregated domain scores (physical, health, socio-emotional, cognitive), and prediction-constrained factor analysis for interpretable predictions of Soldier performance.

This model, which amounts to a humanoid digital twin of Soldiers performing small unit non-medical tasks, is translated into a “small unit dashboard” that displays relative performance metrics for leader decision points. In addition to modeling individual and collective team performance reasonably, humanoid digital twins must support leaders' decision-making and readiness postures. For this reason, it is critical to continue developing predictive performance models that can impact the military decision-making process and include data driven dashboards that improve Soldiers’ readiness. Dashboards created from these data ecosystems allow commanders to review a snapshot of their unit readiness. This allows for improved risk assessments and training plans before missions.

Successful integration of humanoid digital twin models measuring individual and collective team performance (in live, virtual, and constructive domains) will optimize unit performance prior to deployment cycles. Additionally, a suite of capabilities that sense, analyze, display, and precisely model performance using humanoid digital twins will reduce training time and increase Soldier competency. As a result, this will provide a smarter, faster, and more precise learning ecosystem for Soldiers and leaders at all echelons. Developing humanoid digital twin models requires AI and machine learning and an adequate focus on Soldier readiness. However, the existing digital infrastructure of the military health system is neither sufficient nor targeted toward collecting, storing, analyzing, and curating data for modeling humanoid digital twins.

CURRENT CHALLENGES

When discussing humanoid digital twins and precision training, the rich data layer that describes the individual and collective team performance—necessary to produce meaningful models—is often overlooked. This data layer is derived from passive data collection of human performance when executing individual and collective tasks. Further, the data must be programmed to contain meaningful labels derived from human experience prior to leveraging humanoid digital twin models to inform improved decisions. Applicable models, methods, and metrics relevant to generating and labeling this data are still nascent, especially regarding medical performance optimization and readiness. There are few trainings and no real-world military medical environments that collect data about caregiver performance using passive sensors and store that data for later modeling.

For example, the MASTR-E advanced, data-driven proficiency assessment and after action review system utilizes cutting-edge performance analytics to measure, assess, and portray tactical training outcomes at the individual and small unit levels.[12] This concept is similar to the humanoid digital twin of an athlete whose coach can target training based on data-driven metrics for optimal performance on the athletic field (Figure 2).

Figure 2. MASTR-E small unit performance analytics with effective individual outcome metrics for data-driven decisions.

In other words, the system allows Soldiers and units to target individual deficiency patterns and success to optimize training outcomes. The medical community could adopt a comprehensive training approach using objective metrics and subjective feedback from observers, coaches, and trainers. This approach could be applied in both live and simulated training environments, generating a large dataset of performance information that can be used to create personalized, digital replicas of individuals to optimize training and improve readiness. Medical human performance modeling and simulation within research and training environments have essential components that include:

- Tracking and visualization of measures of performance and measures of effectiveness during individual live-fire and simulated proficiency assessments performed under tactically relevant stressors.
- Automated/digitized after action review platform for validated performance quantification and visualization of small unit performance during battle drill execution, to include automated cueing of deficiencies for targeted training ("shoot, move, communicate, and medicate").
- Commitment to a training integration plan for implementing modeling and simulation within the training cycle.
- Measures of performance and measures of effectiveness that are easily collected for visualization and review provide Soldiers and leaders the ability to quantify deficiencies and strengths, and train deliberately.
- A core dataset that can be collected in research, training, and real-world casualty care environments across the entire care continuum (Point of Injury through Role 4).

While it is imperative to emphasize the models, methods, and metrics that can produce the core dataset of human performance, it is equally important to define the requirements for governance and data architecture to collect, store, analyze, portray, and model within the data pipeline.[16]

The Fiscal Year 2024 Army AI Data Strategic Action Plan,[9] states all data and modeling efforts must adhere to the VAULTIS principles wherein data and models are Visible (V), Accessible (A), Understandable (U), Linked (L), Trustworthy (T), Interoperable (I), and Secure (S). This requires seamless communication, coordination, and safeguarding of data and software from the lowest to the highest echelon of oversight. Data architecture must also adhere to a Modular Open Systems Approach per Title 10 United States Code, Section 805, 2446a.(b). The DoD will deploy modular design interfaces between major system platforms and ensure that there are government rights to the tech stack, which is integral to the engineering requirements for product development. [17] Moreover, it's imperative for the organizational culture to set realistic technology goals. Being realistic involves harmonizing new systems with existing legacy systems and investing in the development of a skilled workforce fully trained in these technologies. The end state would be to achieve more relevant,

cost effective, and time efficient performance goals and outcomes.[18] Other substantial challenges to developing humanoid digital twins are highlighted in Table 2.

TABLE 2 - Challenges to developing Humanoid Digital Twins integrating data with passive sensing and AI.[16,23,24]

Data Security
Protect the integrity and security of integrated data; implement robust cybersecurity measures to safeguard sensitive information (e.g. 'Data at Rest' and 'Data in Motion').

Data Governance
Establish a system of record with clear data governance policies and practices to ensure data quality, regulation compliance, and ethical use.

Integration Complexity
Manage the complexity of integrating data from diverse sources, ensuring compatibility with a scalable and flexible integration solution set.

Change Management
Address the cultural and organizational changes required for successful implementation of training, communication, and workforce development.

AI Ethics
Ensure that AI algorithms trained on integrated data are ethically designed and monitored to prevent chance, variability, biases, and unintended consequences.

According to a report from the Director of Operational Test and Evaluation, the digital twins' verification, validation, and accreditation process is still under development. Guidance from the Director of Test and Evaluation, in coordination with the Office of the Under Secretary of Defense for Research and Engineering, indicates that the interim process for verification and validation of modeling and simulation will apply to digital twins. The report further asserts that the plan for the use of digital twins with commercial virtualization technologies within DoD must include the following: [17]

- Requirement "to assess the dependencies of the system and its components on specialized real-time computer processing wherein virtualization may pose a performance or power consumption concern for tactical applications"[16]
- Requirement to evaluate the benefits of commercial virtualization (e.g., Virtual Machines, Hypervisors, Docker Containers, and Kubernetes Clusters), "including energy savings, potential reliability improvements, and hardware savings while creating and maintaining more complex security boundaries"[17]
- Commitment to develop "tools and processes needed to adequately evaluate the operational performance of systems employing such technologies"[17]

Finally, a lack of a data strategy, data standards, interoperability framework, and infrastructure for data storage within the MHS are significant barriers to successfully developing AI medical assessment tools to equip the ready medical force. These foundational components of an AI

learning ecosystem must be created specifically for the medical community, especially when patient data is incorporated into the training model. Developing these capabilities will allow the medical science and technology (S&T) community to build and refine individual and collective performance models. As these models mature, they can be integrated into more precise humanoid digital twins of the trainee, the instructor, and the tactical combat casualty care delivery ecosystem by fusing past and current data for trend analyses and future predictive modeling.

While MASTR-E developed individual Soldier and small unit performance data of non-medical tasks, there does not appear to be similar development efforts for model and simulation in the MHS. However, there are nominal efforts within the Medical Research and Development Command and the Telemedicine and Advanced Technology Research Center. Failure to modernize training data and analyses may result in significant readiness gaps and contribute to cognitive and physical performance deficiencies. Consequently, these critical gaps also impact readiness to perform effectively during the most critical moments of combat casualty care.

FUTURE IN TRAINING

In the future, training that translates to Soldier readiness will require a well-governed data architecture and learning ecosystem that can leverage emerging technologies like AI for more focused performance outcomes. Holistically, the current evaluations of technical skills need more objective and consistent metrics of success. Non-technical skills such as stress management and teamwork are often indirectly addressed through instructor feedback rather than objective and reliable debriefing from all perspectives.[19] Limitations on *time* imposed by instructors and limited user *trust* in simulation and training are magnified by budget and resource constraints, directly affecting the continual learning ecosystem. Therefore, digital twins are necessary for maximizing limited training time while increasing trainee *trust*, leading to a more ready medical force.

Integrated with a common data architecture to optimize performance in live, virtual, and constructive training domains, these humanoid digital twins will utilize objective performance analytics. Analytics would then measure, assess, and portray tactical performance and effectiveness measures for improved training outcomes within a digital learning ecosystem. Furthermore, non-traditional applications of humanoid digital twins will likely appear as new technology emerges. For example, augmented reality or mixed reality of the humanoid digital twin's anatomy can be superimposed upon a live person or object. Future applications could include using injured Soldiers during battlefield triage and utilizing the Integrated Visual Augmented System-based software tool.[20,21]

The future operational environment remains complex and uncertain. The ever-changing manifestation of great power competition may prove unpredictable as irregular warfare tactics only add to the volatility within battlefield operations. Optimizing operational medical readiness and improved training outcomes will require rapid innovation, partnerships for programs and policies, plus sound and sustainable solutions for well-defined and validated problems.

Humanoid digital twin technology provides a solution to deliver personalized and dynamic training at a scale that ensures a ready medical force to improve the survivability and lethality of the Soldier.

Editor's Note: Clarification for the reader, in the "Digital Twins and AI section," narrative was written using the greater than and less than symbols <chairs>. This is an example of computer programming language; it is AI labeling and can substitute any object.

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Originally Published: May 15, 2025

Austere Resuscitative and Surgical Care Teams: Supporting Far-Forward Trauma Care on the Future Battlefield

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Over two decades of conflict in the Middle East, deployed military medical capabilities have made significant advancements in tactical combat casualty care, damage control resuscitation, and damage control surgery. Among these improvements include the austere resuscitative and surgical care (ARSC, pronounced ärsk) teams, whose history extends back to Operation Eagle Claw in 1980 when special operations forces (SOF) identified a need for far-forward surgical teams. The concept of ARSC teams expanded to conventional forces in the 1990s, later proving crucial during Operation Enduring Freedom and Operation Iraqi Freedom.

The ARSC can be defined as an "advanced medical capability delivered by small teams with limited resources, often beyond traditional timelines of care, and bridges gaps in roles of care to enable forward military operations and mitigate risk to the force."[01] The recent deployment of these highly skilled teams closer to the front lines has made combat surgical capabilities readily accessible in the most restricted operational environments.

Military operational and medical planners now focus on understanding the future battlefield landscape.[02] Potential conflicts with near-peer adversaries could result in large-scale combat operations (LSCO), as demonstrated in the ongoing Russo-Ukrainian War, which carries significant challenges for casualty care and austere surgical assets as they involve daily mass casualty events, a lack of timely aeromedical evacuation, and the need for prolonged field care.[03,04] These issues highlight the austere environment where access to clean water, electricity, and a fixed or mobile medical facility is significantly degraded or denied, and where diagnostic and treatment resources and medical personnel are unavailable or limited for extended periods.[05]

There are important lessons being learned from the ongoing military medical experiences in Ukraine. The ARSC teams face challenges both currently and in the context of potential future

battlefields. The training, skill maintenance, and employment of ARSC teams remain critical, as they ensure the highest standards of far-forward trauma care, especially in the demanding environment of LSCO.

TRAINING AND INTEROPERABILITY

Manning, training, and facilitating the relevant developmental experience for ARSC teams is presently inadequate for managing the medical needs that future LSCO environments will impose on SOF and conventional forces. Adept ARSC teams, much like SOF units, cannot be created after conflicts occur.[06] Just as effective military operations necessitate upfront commitments of time and resources, the same principle applies to ARSC teams. They require meticulous preplanning, manpower allocation, equipment provisioning, and comprehensive training, well before any potential need of an ARSC team. With proper training, ARSC teams can achieve a high level of tactical and clinical proficiency and stand ready to swiftly mobilize at the commander's discretion.

A Special Operations Surgical Team member assigned to the 24th Special Operations Wing applies a chest seal on a simulated patient to cover a gunshot wound at Northeast Alabama Regional Airport, Alabama, Mar. 17, 2022. The SOST team is an extremely lightweight, mobile, and rapidly deployable element that is medically and tactically trained to provide trauma resuscitation and life-saving surgical care on or near the battlefield. (U.S. Air Force photo by SrA Christopher H. Stolze)

Currently, several "just-in-time" pre-deployment combat trauma training courses compensate for the limited practice opportunities available in military treatment facilities. These training programs include the intensive week-long Tactical Combat Medical Course, a concise three-day Emergency War Surgery course, and immersive two-week rotations for forward surgical teams

preparing for deployment at the Army Trauma Training Center, situated at Ryder Trauma Center in Miami, Florida.[07] The primary objective of these courses is to prepare forward resuscitative surgical detachments for a relatively stable environment, such as a Role 2 facility focused on a small quantity of surgical patients or a Role 3 theater hospital. However, there are currently no courses offered as part of a readiness requirement that prepare small surgical teams to operate in the austere environment.

Additionally, most deployable small surgical teams are manned by general surgeons, who do not take care of surgical trauma cases in their daily practice. The dearth of experience in trauma management for general surgeons in the Army is evident in the data. Currently, there are just 150 deployable active-duty Army general surgeons with 50 having received specialized training in trauma, surgical critical care, or burn care.[08]

A shortage of qualified, trauma-trained surgeons is also evident in the Russo-Ukrainian conflict. A Global Surgery report from 2014 concluded that Ukraine had approximately 87 surgeons per 100,000 citizens, though this number could not be subdivided by specialty.[09] The Global Surgical and Medical Support Group utilizing the American College of Surgeons Military Clinical Readiness Curriculum “M-Course” has been teaching Ukrainian Surgeons damage control resuscitation, surgery, and emergency wartime operations.[04] While supplemental training from the Global Surgical and Medical Support Group enabled the rapid acquisition and transfer of relevant surgical trauma skills, Global Surgical and Medical Support Group must adapt from focusing exclusively on just-in-time surgical care training to incorporating new concepts from recent war surgery experiences that will support the United States in future conflicts.

The United States should learn from the challenges in Ukraine. Providing longitudinal sustainment training, emphasizing exercises that ensure interoperability with line units, and drilling home tactical skills that can elevate ARSC maneuverability on LSCO battlefields would go far in adapting ARSC for the future operating environment. Including high-fidelity simulated practice under various lighting conditions and involving intermittent transportation between or even during operations would be small contributions that could further evolve ARSC operational prowess and tactical capacities.

SKILL MAINTENANCE AND READINESS

Across the Military Health System there is a well-documented challenge that is hampering the ARSC capability, as well: Military surgeons often struggle to attain the required case volume and complexity necessary to maintain trauma readiness.[10] This challenge may exacerbate the "Peacetime Effect" or the "Walker Dip," a phenomenon observed in military medicine in which combat casualty care improves during periods of armed conflict, only to see these advancements diminish once the conflict subsides.[11,12] If lessons learned in war are not reinforced during peacetime or non-deployed periods, they risk fading from practice and may need to be relearned over time. Projections of casualty rates in possible future LSCO indicate that the price of overcoming a “Walker Dip” during the next conflict could be extremely severe.

A U.S. Army medical team assigned to 8th Forward Resuscitative and Surgical Detachment, 18th Medical Command, and a Port Moresby General Hospital surgical team conduct a surgical ligation of patent ductus to correct a breathing abnormality due to a birth defect on a 2-year-old girl during the inaugural Papua New Guinea Trauma Rotation in Port Moresby General Hospital at Port Moresby, Papua New Guinea, Dec. 10, 2023. (U.S. Army photo by Sgt. 1st Class Timothy Hughes/Released)

One effort to quantify the value of surgeon workloads comes from the Clinical Readiness Program, which explains the knowledge, skills, and abilities of combat casualty care. For instance, from 2015 to 2019, the number of general surgery procedures generating knowledge, skills, and abilities points at military treatment facilities decreased by 19.1%.[10] This trend is concerning since it is well-established that high-quality outcomes are often a direct result of surgeons' exposure to high-volume caseloads across various surgical specialties, including trauma care.[07,14,15] Similarly, civilian academic trauma centers have identified a robust correlation between case volume and patient outcomes, observing a noteworthy reduction in both mortality rates and hospital length of stay when the annual case volume exceeds 650 cases.[16]

Two primary strategies to increase provider knowledge, skills, and abilities currency are to either increase the volume and complexity of surgical care at military treatment facilities or to send surgeons outside of military treatment facilities to civilian centers with pre-existing volume and acuity through military-civilian partnership medical programs.[17] For the former, the recent military health system stabilization memo published in December 2023 directed the DoD to improve staffing and recapture care within the military health system that has previously gone to the private sector.[18] However, military health system-based training for small surgical teams is just one necessary component of the comprehensive training required to maintain and advance surgical capabilities. There are other skills that must be cultivated and refined to succeed in the contemporary military operating environment. The diverse set of situations an ARSC team may find itself confronting requires a firm understanding of the principles of medical team interoperability, advanced surgical planning, and operational flexibility. Military-civilian

partnership can help hone these principles for ARSC personnel training for a variety of missions. Combining military-civilian partnership with lessons learned recapture strategies and adding on dedicated austere surgical team training could support the appropriate skill balance.

Maintaining robust surgical proficiency in military medicine will be more critical than it has been in recent memory if the U.S. continues facing the likelihood of full-scale war with another major power like the People's Republic of China, Russia, or Iran. Enhanced outcomes and increased survivability during Operation Enduring Freedom, Operation Iraqi Freedom, and Operation Inherent Resolve set a new standard for delivering quality trauma care that is likely unattainable in LSCO. Recent LSCO simulations projected staggering casualty numbers, such as 50,000 casualties in battles involving 100,000 soldiers with daily estimates as high as or even greater than 3,000.[02] The Russo-Ukrainian War, for example, has so far witnessed over 300,000 casualties, averaging around 500 per day.[03] A lack of surgeon readiness due to low case volumes will exacerbate such high casualty rates.

Moreover, past conflicts have benefited from the swift evacuation capabilities observed in the Global War On Terror, which may be uncommon in future conflicts. Given the new challenges of providing prolonged care in austere conditions, ARSC teams may find themselves operating near the front lines, often with limited resources and confronting complex battle injury patterns.[19] To meet the expectations of delivering complex polytraumatic care to service members under these demanding conditions, ARSC teams must receive additional skill sustainment through military-civilian partnerships and austere trauma training through dedicated courses.

EMPLOYMENT FLEXIBILITY, ADAPTABILITY, AND MOBILITY

U.S. Army Soldiers assigned to the Austere Resuscitative Surgical Team perform a simulated surgery during the U.S. Army Special Operations Command Capability Exercise 2024 at Fort Bragg, North Carolina, April 5-12, 2024. The CAPEX is a week-long demonstration and immersive experience of the Army Special Operations Forces' capabilities and equipment. This exercise demonstrates how ARSOF transforms in contact and practices innovation as a mindset. ARSOF's small formation allows for quick development and dissemination of new equipment, tactics, techniques, and procedures to support transformation in contact. During CAPEX, guests had the opportunity to experience how ARSOF Soldiers from each of our units conduct operations, as well as an opportunity to immerse in the technology that enables ARSOF Soldiers.

With proper training and experience, ARSC teams are highly proficient in both tactical operations and far-forward pre-hospital trauma support, making them irreplaceable assets in battlefield operations. During LSCO, ARSC teams can become high priority targets of anti-access/area denial systems, long-range artillery, and unmanned combat aerial vehicles.[03] For instance, Russian forces have previously targeted Ukrainian hospitals and medical facilities located approximately 400 kilometers from the Russian border.[04]

Maintaining continuous analytical and resource investments to find the right balance between operational risk and the medical capabilities of ARSC teams is of utmost importance. These

teams must exhibit exceptional flexibility, mobility, and adaptability by seamlessly integrating into both conventional forces and SOF while ensuring the highest level of casualty care.[20] A prime example can be seen in Ukrainian ARSC equivalents, who often receive and treat casualties within a mere 500 meters of the ever-shifting front lines.[04] That fluidity of the frontline trace underscores the critical need for the ARSC capability's agility in rapidly changing combat situations. Likewise, in situations where ARSC elements need to provide extended care to a patient, they must possess the capacity to swiftly relocate to secure, hardened areas or structures to minimize potential risks.[21]

Special Operations Surgical Team members assigned to the 24th Special Operations Wing assess a simulated patient's injuries in low-light conditions at Northeast Alabama Regional Airport, Alabama, Mar. 17, 2022. (U.S. Air Force photo by SrA Christopher H. Stolze)

CONCLUSION

The significance of ARSC teams in modern warfare cannot be overstated as they represent an irreplaceable medical advantage on the battlefield. Balancing tactical and clinical competence is essential for ARSC teams to seamlessly integrate into conventional and SOF orders of battle to provide far-forward trauma care. As is seen in Ukraine, the need for rapid access to high-quality trauma care is evident, underscoring the importance of continuous investment in manpower, training, and readiness well before conflicts arise. Like SOF, ARSC teams require robust resource investments, standardized skills sustainment strategies, and cooperative multinational education to address future battlefield demands.

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Originally Published: June 20, 2025

Drop, Improvise, Win: The OSS in China

By Lt. Col. Zachary Griffiths

At 4:30 a.m. on Aug. 16, 1945, six men flew into the unknown. By sundown, they'd been beaten, stripped, and installed in the nicest hotel in Mukden. None of them knew this was in front of them just seven days earlier.

The end of World War II surprised the Office of Strategic Services (OSS). On Aug. 11, 1945, two days after the nuclear attack on Nagasaki, the OSS received the mission to dispatch Mercy Mission teams into China.[01] The Japanese had badly treated American prisoners of war, and there were concerns that Japanese officers might execute prisoners rather than return them to American control. As an additional concern, the Soviet Union had invaded Manchuria in northern China on August 9 and were racing towards camps holding American prisoners.

The OSS had a clear task: Get there first.

Though the war's end surprised the OSS, they were ready. Commander of OSS forces in China, Col. Richard Heppner, reported August 10 that "although we have been caught with our pants down, we will do our best to pull them up in time."[02] The OSS transitioned quickly. The same day, Heppner sent another cable reporting that his commandos were "ready to leave tomorrow."[03]

Cardinal dropped in alongside seven other Mercy Mission teams across China on August 16 — just seven days after Fat Man fell on Nagasaki. Their mission was to prevent further harm to allied prisoners by the Japanese or the rapidly approaching Soviets.[04] These teams also had secondary intelligence gathering objectives in otherwise inaccessible locations.[05] The Mercy Missions were a veritable "who's who" of future special operations leaders. Colonel Aaron Bank led the Raven mission into Laos while Capt. John Singlaub joined the Magpie mission into Beijing.[06] All of the Mercy Missions put OSS operatives in challenging situations where they found both success and failure.

Small teams operating in politically sensitive, semi-permissive environments are core to what

Army special operations does, particularly in the Indo-Pacific,yet operations like Cardinal remain underexplored. A review of eight *Special Warfare* and *Veritas* articles found only two mentions of OSS operations in China, and only one included the Mercy Missions.[07]

Cardinal is worth closer study not because it was cleanly executed, but because it succeeded amid limited intelligence, minimal guidance, and political ambiguity—the same environments our teams must prepare for today.

Cardinal, The Story

The six men of Operation Cardinal had no time to rehearse and no idea what they would find. Dropping into Japanese-occupied Manchuria just a day after the emperor's surrender, they carried a mandate to get there first—before the Soviets, before the chaos, and before anyone else could harm or hide the prisoners.

Little is recorded about the planning for Cardinal. However, the team's diverse membership and varied airdropped supplies show an understanding of the challenges ahead. Cardinal initially had six members. Major James T. Hennessy led the operation. Major Robert F. Lamar, a physician, joined to provide immediate medical care for the prisoners. On the enlisted side, Staff Sgt. Hal Leith served as the Russian language interpreter, Sgt. Edward A. Starz served as the radio operator, and Sgt. Fumio Kido served as the Japanese interpreter. As a second-generation American born to Japanese parents in Hawaii, he spoke fluent Japanese. The team also included Maj. Cheng Shih-wu, a Nationalist Chinese officer and the team's Chinese interpreter.[08]

The team departed from Hsian at 4:30 a.m. on August 16, flying 800 miles to Mukden aboard a B-24 Liberator. The aircraft, designed for bombing runs, was not ideal for parachute insertion. Still, the team exited one by one through the bomb bay, landing in broad daylight outside the industrial city of Mukden.[09]

Hundreds of local Chinese surrounded the drop zone as Cardinal landed. As Starz and Cheng gathered the equipment, the rest of the party started walking to the Hoten camp, located north of the drop zone. Two Japanese platoons ambushed the Americans walking north. Unaware the war had ended, the Japanese forced the team to disarm and disrobe. They then beat the prisoners. Kido faced special violence as a Japanese-American. Fortunately, a Japanese officer arrived on horseback soon after, ending the violence. He then took them to meet with the Kempati, Japanese secret police, in downtown Mukden. The Kempati agreed to escort them to the Hoten Camp the next day, installing them in the nicest hotel in Mukden in the meantime.

The next day, on August 17, Cardinal liberated the Hoten camp. With a Japanese escort, Cardinal traveled to the camp, met with the senior American, and then announced the camp's liberation. They rescued 1,321 Americans, 239 British, and some Australian, Dutch, and Canadian prisoners.[10] Cardinal also learned of an additional camp, holding senior allied prisoners, about 150 miles northeast. Despite this major success, higher OSS command did not learn of the liberation until the 18th when Cardinal finally established a radio connection.

Conditions immediately improved for the Hoten prisoners. One prisoner, Capt. Lloyd Allen, commented "Food got easier right away" after liberation and that prisoners needing advanced medical aid left within the first week.[11]

As the rest of the Cardinal team stabilized conditions at Hoten, Leith and Lamar departed by train on August 18 to rescue the high-ranking prisoners. Japanese escorts provided a first-class rail car, and the pair arrived early the next morning. There, they liberated prominent prisoners including Lt. Gen. Jonathan Wainwright, Maj. Gen. Edward King, British Gen. Arthur Percival, and Dutch Governor-Gen. Alidius Starkenborgh.[12] Though the prisoners were ready to depart, poor phone lines and missed calls delayed coordination with Mukden.

Soviet forces arrived on August 25, complicating the return. The Soviets denied them the train. So, they found a bus. Then a rail line without water for the steam engine. Leith and Lamar didn't improvise once, they improvised the entire way back.[13] The group finally reached Mukden in the early hours of August 27.

Cardinal worked to evacuate prisoners as quickly as possible but were forced to triage evacuees due to insufficient airlift. The bulk went by train to Port Arthur (now Dalian), where the Navy moved them on to Okinawa for flights home. Very sick prisoners flew to Manila while less-sick patients flew back to the United States for care. Notable prisoners, like Lt. Gen. Wainwright, flew to take part in the Japanese surrender ceremony on the battleship Missouri while other high-ranking officers were flown out for debriefing.[14]

Just as the worst seemed behind them, another problem surfaced: teeth. After years of poor nutrition, many prisoners could not chew the fresh vegetables or canned food now available. Fortunately, the camp included two allied dentists. The OSS team seized dental chairs, tools, and supplies from Japanese army hospitals, enabling immediate treatment.[15]

With the prisoners safe, Cardinal became something else entirely: America's first eyes in a region the Soviets claimed. This OSS intelligence base in Manchuria continued despite strong Soviet reaction to continued American presence. Multiple sources report that Soviet troops robbed Americans of their watches, rings, and money while also damaging American aircraft without any accountability.[16] Despite the pressure, the OSS were the only American intelligence assets in Manchuria, reporting on things like the secret arrival of the Chinese Communist forces and other significant political developments.[17] Under considerable pressure, the Americans took refuge in the French consulate until both the French and Americans were forced out by the Soviets on October 5.

Cardinal's mission didn't end with liberation —It evolved under pressure. From humanitarian relief to intelligence gathering, the team adapted as conditions shifted and higher command remained distant. Their ability to operate with initiative, cultural fluency, and tactical restraint in a politically sensitive environment exemplifies the kind of readiness special operations forces (SOF) must continue to cultivate.

Some lessons

Cardinal did not follow a doctrinal script, and the team did not look like a standard detachment. They had no comms for nearly two days, operated with a patched-together team, and solved unanticipated problems—like dental care. Still, they got it done.

Cardinal was the kind of mission that doctrine does not quite know what to do with, but that special operations get anyway. It was not direct action, unconventional warfare, or foreign internal defense. Army doctrine would categorize it as a "collateral task"—a catch-all for missions that fall outside the principal tasks. As *Field Manual 3-18* puts it, "Special Forces can perform other tasks of a collateral nature, such as counterdrug operations and noncombatant evacuation operations."[18] These are the irregular, politically-sensitive assignments that come by default. Cardinal shows why we need to train for them.

The Cardinal case also highlights the essence of mission command. The team went in knowing they would have no contact for a while. Then, when they did not check in for two days, no one came looking—They were trusted to figure it out. Today, that kind of communications blackout is rare. But, the principle holds: Train teams to think, not wait.

Likewise, Cardinal's six-person team is a study in creative task organization. They did not have the right people, they had the available ones: two majors, a doctor, a radioman, two linguists, and a foreign officer. And yet, they built a team, adapted on the fly, and made it work. Special operations forces will continue to face missions that do not match their manning documents or rehearsal cycles. Attachments will arrive late. Some will bring SOF experience; many will not. The teams that succeed will be those that integrate fast, build trust quickly, and move forward.

Finally, we should not overlook "the teeth." Years of malnutrition had left prisoners unable to chew their first real meals—and solving that meant recognizing the problem, finding camp dentists, raiding Japanese depots, and setting up a field dental clinic. The lesson is not about dentistry. It is about judgment. Cardinal's team identified an unanticipated need and solved it with whatever resources they could find. That is what detachments do. And, sometimes, the mission turns not on what we rehearse most, but on the skills we rarely touch: delivering calves, pulling teeth, building bridges, or fixing radios. We must train like those moments matter.

The value of Cardinal lies in what it demands from us today: Preparation for doctrinal edge cases, reinforcement of mission command, confidence in creative task organization, and fluency in the rarely used skills that may prove decisive. As special operations forces face uncertain contingencies in the Indo-Pacific and beyond, leaders and trainers must prepare teams not just for the missions we plan but for the ones we never saw coming.

Fit Cardinal Into Your Training

Operation Cardinal was not special because it was dramatic. It was special because it demanded the full range of what makes special operations forces unique: initiative in the absence of

guidance, cultural and linguistic adaptability, improvisation under pressure, and the ability to assemble and lead a nonstandard team in a politically-sensitive environment. While many readiness exercises test the raid or infiltration techniques, few assess a detachment's ability to integrate non-standard specialties or adapt to humanitarian imperatives under time pressure. This kind of training starts at the detachment, but it succeeds only if company and battalion leaders build it in.

Modern special operations units can honor their legacy not only by studying missions like Cardinal but by training for them. A Cardinal-inspired snap exercise could challenge a detachment to plan and execute a humanitarian or rescue mission with just 48 hours of warning, followed by an unplanned secondary task that exercises rarely used skills like horizontal construction for the 18C, veterinary or dental care for the 18D. Add two last-minute augmentees—perhaps a foreign partner or interagency specialist—and test the team's ability to integrate, adapt, and succeed.

This does not require more training; it requires smarter training. The 1st Special Forces Group ran quarterly snap exercises with unknown infiltration methods and non-standard tasks—testing flexibility, improvisation, and integration under pressure. Events like those could easily add Cardinal-like objectives. The combat training centers offer another opportunity. Large, complex, and well-resourced, these opportunities are ideally suited for scenarios like Cardinal, where the challenge is not the raid but what happens after. These exercises also offer higher headquarters, such as 1st Special Forces Command, a way to evaluate readiness for the ambiguous, irregular missions that do not fall neatly within doctrinal lines but often land on our shoulders.

We cannot predict the next Cardinal, but we can build the teams that will succeed when it arrives.

Author's note: Lt. Col. Zachary Griffiths will soon command 4th Battalion, 10th Special Forces Group (Airborne). He is a former White House Fellow.

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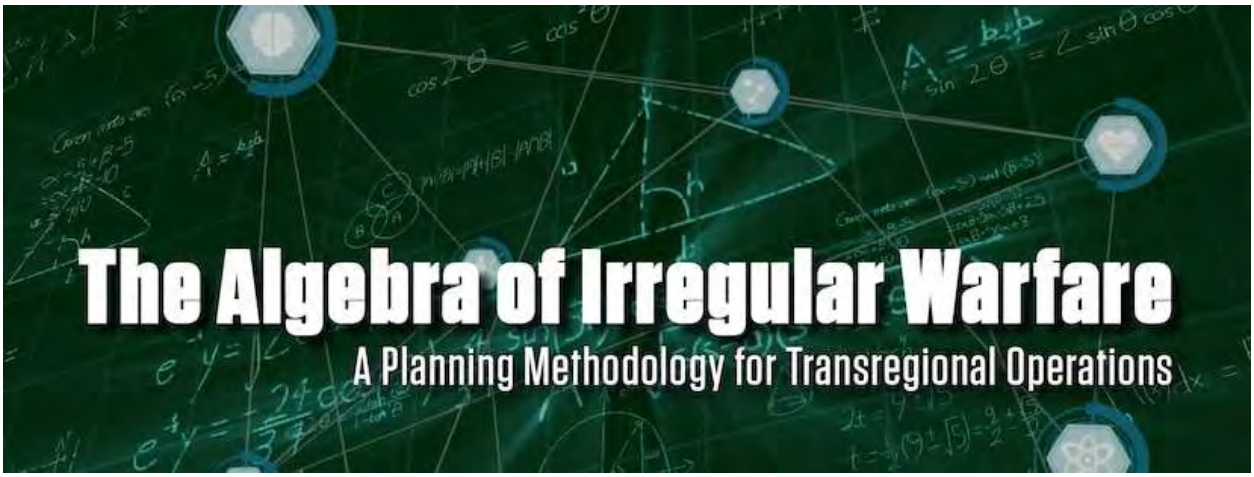

Originally Published: July 1, 2025

The Algebra of Irregular Warfare: A Planning Methodology for Transregional Operations
By Lt. Col. Shawn Bourdon and Maj. Brian Hamel

> "In each were found the same elements, one algebraical, one biological, a third psychological. The first seemed a pure science, subject to the laws of mathematics, without humanity. It dealt with known variables, fixed conditions, space and time, inorganic things like hills and climates and railways, with mankind in type-masses too great for individual variety, with all artificial aids, and the extensions given our faculties by mechanical invention. It was essentially formulable." [01]
>
> *T. E. Lawrence*
> *The Evolution of a Revolt, page 7*

How do special operations forces (SOF) plan operations against threats delineated in the National Security Strategy that transcend the geographic and legal boundaries imposed by the Goldwater-Nichols Act and Unified Command Plan? The Department of Defense (DoD) requires, but does not have, an entity that connects, integrates, and globally synchronizes irregular warfare across combatant commands and the interagency. The solution to fulfilling that requirement is to create an entity that can integrate and leverage all the instruments of national power, domestically within the U.S. and through international allies and partners throughout all phases of the conflict continuum.

In November 2021, the commanding general of U.S. Army Special Operations Command (USASOC) established a transregional irregular warfare task force to address gaps and seams being exploited by adversaries of the United States. Since its inception, this task force has garnered perspectives on planning and coordinating globally integrated irregular warfare. Since 2021, it has been assessed by the irregular warfare task force planners that conventional planning tools U.S. leaders use are rigid and not optimal in some problem sets. The DoD emphasizes traditional planning over the ingenuity, critical thinking, and flexibility required to compete in the irregular warfare space. Novel solutions, integration of agencies outside of the military, leveraging multinational partners, and non-traditional planning methods employed in new ways are critical in preparing and synchronizing transregional irregular warfare effects.

Task force planners have observed the joint planning process and military decision-making process as stand-alone methods which are suboptimal to address the complexities of transregional irregular warfare. The planning methodologies do not account for the complexity of spatial, temporal, and human variables when they are overlaid by threat streams that cross multiple combatant commands. In the same vein that T.E. Lawrence observed elements in his surrounding that were constants in his planning considerations, the authors suggest the following algebraic equation as a start point to conceptualize known variables that can be rapidly iterated on in a complex environment:

$(M)(CIA_cA_u)(A+P)^4$= properly planned irregular warfare operation

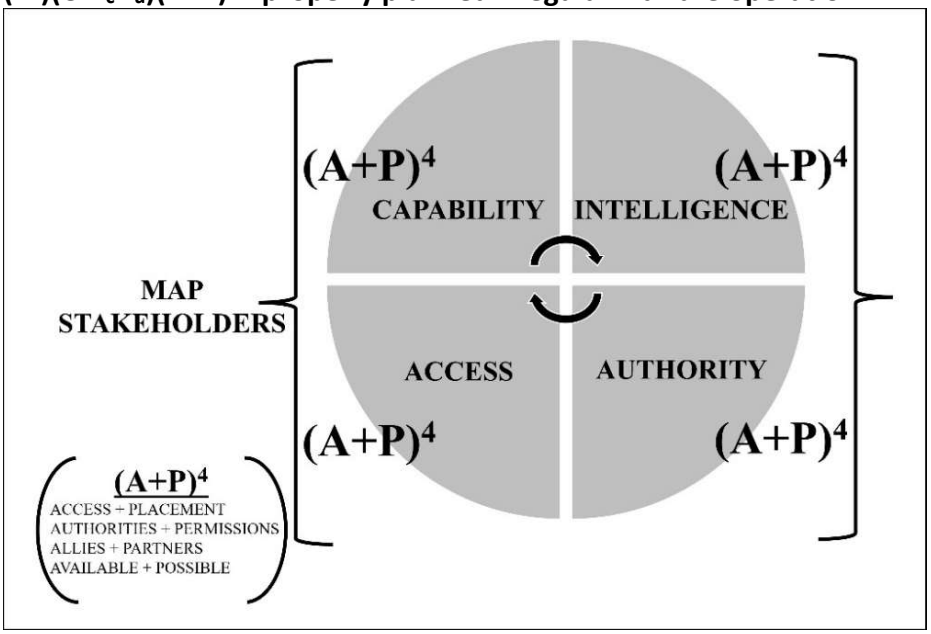

Figure 1: This graphic represents a simplified rendition of the algebraic expression meant to depict iterative planning considerations for irregular warfare operations.[02]

Inputs for the variables can be derived from multiple sources, and no one variable has absolute primacy. For example, a capability or authority can be sourced from the interagency, an intergovernmental organization, a commercial partner, or an ally. Below is the context of the variables as the planners have applied them against problem sets.[03]

M = MAPPING RELEVANT STAKEHOLDERS: This should be the first variable to be addressed to accurately plan. Alternative compensatory control measures, special access programs, and other controlled access programs (the intelligence community variant of special access programs) exacerbate the problem of finding equities that can contribute to, or are already contributing to, a problem set. If not mapped completely, planners and executors may spend years on an initiative only to find an adjacent organization rendered their work redundant. To conduct transregional irregular warfare effectively, a planner needs to map stakeholders (conducting a form of link and nodal analysis) across capability developers (MIT Lincoln Labs, Sandia National Labs, the U.S. Army Rapid Capabilities and Critical Technologies Office, Defense Advanced Research Projects Agency), intelligence agencies, those that can generate access (special

mission units or departments within the intelligence community), authority holders (combatant commanders, or chiefs of station), and allies and partners, while continuously updating this map. This is also an early step to identify risk-holders, discussed below.

C = CAPABILITY: An agent (person) or physical device(s) that affects the targeted system in the desired way. As an example, think of a physical implement that can degrade a SCADA system's ability to monitor industrial equipment.[04] A capability can be derived from an on-hand solution, produced from the Defense Industrial Base, or through partnerships with academia. Capabilities have a close relationship with the *Available or Possible* expression, as some capabilities are developed for a specific operation, activity, or investment. Scientists and researchers may focus efforts on a capability that functions on the edge of what physics permits (possible).

I = INTELLIGENCE: Refers to the most appropriate collection capabilities, production methods, details, and disciplines (e.g. human intelligence, signals intelligence, open-source intelligence, measures and signature intelligence, etc.), in which each contributes to target identification and decomposition, link and nodal analysis, and efficacy of measures of performance or measures of effectiveness. These outputs are facilitated through a multi-layered approach in coordination with intelligence community and international partners.

A_c =ACCESS: What kind of access is needed? Physical (on the 'X'), proximal (one terrain feature away but within range of the selected capability), or virtual (in cyberspace parlance this is access to the logical layer, available to anyone around the world predicated upon technical acumen and a network that is not air-gapped). Any type of access can be achieved by working by, with, and through partners or an indigenous force. Ultimately, understanding what kind of access is needed to achieve the desired effect should help answer who, or what is the optimal equity (special mission unit, inter agency, ally or partner) to facilitate the intelligence collection process or finish option (e.g. leveraging the Office of Foreign Assets Control to emplace economic sanctions against a State-Owned Enterprise, or working with the National Security Agency to develop access to a threat actor's cyber infrastructure). Access is traditionally predicated upon placement because placement establishes the existence of and reason for being at a particular location relative to a system or geographic location. Access is the subsequent step, involving the ability to interact with, retrieve, or use the placed item or resource in question. Without placement, access customarily has no starting point.

A_u = AUTHORITIES: Whose authorities (granted by Constitutional and Congressional frameworks and delegated to Combatant Commanders), and permissions (delegated from combatant commanders to subsequent commanders to approve or disapprove an action) are required to execute this operation? Authorities typically revolve around a particular program or aspect of warfare which varies by maturity across combatant commands. As an example, U.S. Central Command's program surrounding space control is the most mature and advanced of any other combatant command because of the last 20 years of the Global War on Terror. An authority holder assumes a portion of risk. However, in transregional problems, there are often multiple entities assuming risk in different geographic regions. This assumption of risk becomes complicated when the operational or tactical risk holder is not the strategic risk holder.

As a realistic fictitious example, if there is an operation in South America against Russian private military companies, the strategic risk holder is the commander of the U.S. European Command as the commander retains primacy when countering Russia.[05] The operational/tactical risk holder is the commander of the U.S. Southern Command. Concurrence from both is required to conduct this operation. This challenge is further exacerbated depending on the type of effect desired. If U.S. Cyber Command is delivering a payload to achieve an effect, then the operation needs their consent as well. In this example, the operation needs the approval of three combatant commanders, the concurrence of three different staffs with different levels of targeting expertise, and three different legal offices with varying frames of reference. If transregional irregular warfare is to move at the speed of war, there needs to be a faster way to gain approvals and synchronize operations. In the interim, the below equation can assist in optimizing the operations process when coupled with accounting for **(M)(CIA$_c$A$_u$)**:

(A+P)^4= ([Access + Placement] × [Authorities + Permissions] × of **[Allies + Partners]** predicated on **[Availability + Possible])**

Two of the [A+Ps] seem to mirror the initial 'AA' in the CIAA expression. However, the 'CIAA' portion of the expression is typically introspective, in that it looks for solutions that are organic to the DoD and wider U.S. government to engage in irregular warfare tasks. The key here is applying the mapping function of the variables within the polynomial against **(A+P)^4** to understand what our allies and partners can develop and facilitate. The virtual or physical, access and placement of our allies and partners is different from that of the U.S. The access and placement of partners represent another front to create dilemmas and facilitates a symbiotic relationship with US capabilities when competing against a common adversary. Partners and allies have authorities and permissions, especially in the information dimension and materiel acquisition timeline that are more efficient for irregular warfare tasks (function at the speed of relevance) when compared to U.S. policy. This efficacy allows allies and partners primacy during certain phases of an operation to contribute to the intelligence gathering process in different ways. Leveraging multiple allies and partners across different operations also allows planners to widen the scope of work as the analytic rigor is spread to a broader community.

(A+P) = AVAILABILITY + POSSIBLE: Planners need to consider if certain capabilities, intelligence platforms, formations, or infrastructure are available or possible (bounded by physics), both within the context of U.S. power and that of participating allies and partners.

All the variables of the expression, when applied against each other should illuminate shortfalls, complications, or opportunities. It is important to note that these known variables in the expression should change as planning efforts mature, inform subsequent stages of the operation, and shape how the commander or civilian lead accepts risk and uncertainty.

T.E. Lawrence astutely identified three elements, which would impact his campaign against the Turks. The algebraic element highlighted immutable variables that would impact his operations. The authors assess that operations conducted between combatant commands require a similar approach taken by T.E. Lawrence and have crafted an expression to showcase the variables of

trans-regional irregular warfare. The authors found the above expression is best applied when integrating special operations, space, cyberspace, the interagency, and allies, all of whom maintain the operational flexibility to impose cost throughout the competition continuum. In late 2021, the USASOC commander established a task force designed to address transregional problem sets with the combatant commands. These efforts need to scale accordingly. The joint staff should implement concepts from this paper by examining how they conduct and synchronize transregional irregular warfare at the speed of war for the U.S. to accumulate strategic relative advantages against our adversaries.

Lateral Thought Experiment for the Concept of Transregional Operations

A lateral thinking exercise illustrates the points of this paper with a simple scenario posing hypothetical questions.

SCENARIO: Imagine your neighbor is stealing your packages and mail and you want to confirm or deny this fact, as well as intervene to stop this behavior. How would you confirm this information? How would you set conditions to stop the behavior? Some answers appear obvious at face value, if you are unconstrained in your planning. Rarely is planning unconstrained. For the point of illustration, it's important that your neighbor doesn't know that you suspect them, and you want to ensure they come to the natural conclusion it's no longer worth the trouble.
Outcomes: Consider the variables laid out in the article. First, what's your desired outcome? To confirm who is stealing your mail and stop the behavior. Then determine what effects will produce the desired outcome?

MAPPING: The planner must consider all relevant actors. Of course, you and your neighbors are stakeholders, but so too are your adjacent neighbors, your children, the neighbor's children, the mail carriers, delivery services, and the police, as examples. They are all affected in different ways by the neighbor's action and your counter actions. You, as the planner, must map and consider those actors and their interests.

THE VARIABLES: The next is to look at $(CIAA)(A+P)^4$ holistically; as a combination, what obvious solutions exist? Are there solutions that are less obvious, but equally effective? Are there solutions that are unobtrusive and indirect, yet also effective? Each of these can be considered in any order.

INTELLIGENCE: What intelligence is needed to confirm or deny what your neighbor is doing, and how do you resource those? This includes talking to the mail carriers or other neighbors to determine if they have any information. Look at your home camera footage and ask to see others' home camera system footage. Can you make a direct observation at your neighbor's house while asking to borrow their yard tools? These are ways to generate incriminating evidence or indicators that lead to reasonable conclusion. For the scenario, assume you have strong indicators your neighbor is stealing your packages and mail.

CAPABILITY: What capabilities are useful to set conditions to deter your neighbor? A direct solution from afar where a note is left in your mailbox or the neighbor's mailbox that reminds them of the federal penalty. If you have a strong research and development bone, a glitter bomb deliberately left on their doorstep. You could take a more indirect route and pay your children or ask other neighbors to drop hints while at their house for a weekend barbeque. Each of these capabilities is determined by your level of access to the suspected perpetrator's home discussed in detail below. Finally, you could amass the evidence and call the police or mail service to report the behavior as they represent both a capability and appropriate authority.

ACCESS: For the collection and deployment of capability, a determined level of access is needed. Considerations include what type of access do you need, and for how long? Simple observation, by coming home early and observing user access you already have. A little more audacious is access to public spaces like their mailbox. To apply the capability and collect the intelligence, different accesses may be required. Of course, getting onto their property or into their home is the most challenging with the greatest risks. But access by someone else, such as your neighbors at backyard barbeques or your children who play with the neighbor's children, present opportunities for collect or delivery.

AUTHORITY: In this case, outcome is tied to your morals, perceptions, and legal frameworks. The authority is held by the risk holder who has the power to say "yes." So, the authority lies in the decision to act, and manage the risk or uncertainty tied to decisions. Retaliation is probably not an effective deterrent in this case and may sour the neighborhood milieu or escalate into a mail thievery war. Communicating your knowledge of the situation and your continued discretion could be an acceptable option, since you have the power to act, and your risks become balanced by continued theft or behavior change. As mentioned before, calling an authority, such as the post office to report the theft and using the associated legal framework is an option, whereas you are not transferring options to another authority. As in the police example, you could invoke a civil dispute with legal consequences that have both the authority to act and the capability to deliver your desired effect - legal and lasting deterrence. But now your risks affect stakeholders differently. Finally, you can execute other options that may not be illegal but are alternative and indirect means, which carry different risks.

ALLIES AND PARTNERS: Do you have friends in other neighborhoods or towns, whose hobbies may be conducive to assisting you in determining your neighbor's culpability? How much do you trust them, and can they do differently than your immediate neighbors, who may be able to help you solve the problem of the mail thief.

AVAILABLE AND POSSIBLE: Your friends who live in an adjacent neighborhood are several tax brackets above you and can afford the most technologically advanced drones that money can buy. The drone makes no noise and can be retrofitted with advanced imaging devices that can help you identify if your neighbor is stealing your mail.

AUTHORITIES AND PERMISSION: Due to their affluence, this same group of friends received a special permit (permission) from the Federal Aviation Administration (authority holder) to fly at

a higher altitude, further obfuscating their activities to help you uncover the culprit.

ACCESS AND PLACEMENT: These friends who live in an adjacent neighborhood don't come to your house very often and might tip your neighbor off that something is awry if they suddenly are routinely coming to your house. However, they can use the drone to obfuscate and offset their activities (proximal access), so your immediate neighbor doesn't suspect that you are surveilling his house.

By mapping out *who* can help you and with *what* capability – either directly or indirectly – to gain information, you will be well on your way to determining the culpability of your neighbor.

About the Authors

Lt. Col. Shawn Bourdon serves as a Strategy, Plans, and Policy Planner for the U.S. Army. Shawn's 17-year career is marked by several deployments to the U.S. Central Command area of operations to support the U.S. Coalition and allied partners. His notable achievements include a Batchelor's in Nursing Science and a Master's in Operational Planning from the School of Advanced Military Studies. His academic work discusses the integration of cyber-electromagnetic activities into U.S. Army formations. Of interest, Shawn is currently exploring and writing fictional topics intended to experiment with and illustrate modern and future warfare concepts.

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The views, opinions, and analysis expressed do not represent the U.S. Army or the Department of War.

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02 CIAA as a concept is not intended to be represented as the authors' original idea. The authors unsuccessfully attempted to source the original author. This planning construct is routinely used by special operations planners and has been expanded upon in this article to meet broader trans-regional irregular warfare planning needs.
03 The last two pages of this article are dedicated to an addendum that is structured as a lateral thinking exercise as a mechanism to help describe the articulated variables in a different scenario that may resonate better with readers.
04 A Supervisory Control and Data Acquisition (SCADA) system is a system that allows industrial organizations to monitor and control their processes remotely. Emplacing a capability to disrupt industrial SCADA system could result in physical damage.
05 https://jamestown.org/program/russian-pmcs-and-irregulars-past-battles-and-new-endeavors/

Originally Published: July 16, 2025

Understanding and Mitigating Subterranean Operational Threats on Human Health and Performance: The Fatigue-Hormone-Mood Triad

By Maj. Allison J. Brager

With the advent of large-scale combat operations (LSCO) and contemporary threat groups' use of underground tunnels, it is essential to understand the impact of subterranean military operations on human health and performance. Subterranean operations are not rapid in execution. Rather, warfighters can expect to spend days, weeks, and possibly months operating underground with limited access to sunlight, potable water, food, medical evacuation, and the resupply of rations and other military equipment. In brief, subterranean operations directly challenge human endurance, physiologically and psychologically. While subterranean operations are predicted to acutely strain and chronically suppress most, if not all, physiological systems of the body, this article focuses on the fatigue-hormone-mood triad.

The fatigue-hormone-mood triad referenced here characterizes the interconnected nature of physiological symptoms experienced by humans enduring prolonged missions in subterranean conditions. Subterranean environments induce variations in cortisol, free-floating testosterone, and other hormones that affect the entrainment of biological rhythms that regulate sleep, core body temperature, digestion, inflammation, and many other physiological processes of health and performance. In turn, those effects on biological processes alter waking behaviors such as mood and emotional well-being, which increase self-perceived and objective fatigue and fatiguability and ultimately result in a cyclical disruption of hormonal regulation, sleep/circadian processes, and waking performance.

But this desire to understand the real-world and ecologically relevant impacts of subterranean living on human health and performance is met with an increasing gap in knowledge on the subject matter. In fact, our best understanding, at present, dates to 1938. In 1938, a professor from the University of Chicago, Dr. Nathaniel Kleitman, determined that it was essential to conduct a human experiment inside Mammoth Caves, Kentucky. His intent was to examine the impact of constant environmental conditions (termed constant routine) on human sleep physiology, temperature rhythms, and waking behavior over a period of 28 days.

It would have been opportune for the team to investigate the impact of subterranean living on human molecular processes – which we can surmise today from studies of simulated shift work and constant routine.[01] It would be another 20 years before Dr. James Watson and Dr. Francis Crick would discover the holy grail of human nature: DNA. But, in 1938, Dr. Kleitman only had suitable enough technology to monitor patterns and rhythms of human sleep, core body temperature, digestion, mood, and general waking behavior during subterranean inhabitation. After a month at Mammoth Caves, the research team discovered something unique about human physiology: the human biological clock controlling all daily physiological and behavioral processes "ticks" at a speed greater than 24 hours (24.6 hours). Broadly, Dr. Kleitman's and Dr. Askerinsky's research confirmed a prevailing hypothesis that *humans must rely on seasonal variations from sunlight and social cues* to properly entrain and optimize biological rhythms of sleep, core body temperature, digestion, mood, and general waking behavior.[02]

Since 1938, our best hypotheses and predictions on the impact of subterranean operations on human health and behavior derive from: (i) clinical studies of simulated shift work and constant routine[01]; (ii) epidemiological studies of actual shift workers[01]; (iii) and a handful of field studies in military personnel performing shift work and/or stationed in polar climates[03]. To this end, in 2022, leading experts in the field of circadian biology in civilian medicine published a position piece in the flagship medical journal, *Clinical and Translational Medicine*, on the mechanisms through which night shift work, rotating shift work, and non-optimal lighting conditions increase human morbidity (i.e., risk for poor health outcome/disease state) and mortality (e.g., risk of death). In 2020, leading experts in the field of circadian biology for the military published a similar report highlighting that chronic sleep loss compounded by rotating shift work and non-optimal lighting conditions compromises medical readiness, morale, health, and welfare; increasing risks for high blood pressure, ulcers, diabetes, substance abuse, traumatic stress, mood disorders, and suicide.[04] Very recently, reverse-cycle military operations have been known to compromise the circadian-driven release of endocrine factors critical for health, recovery, and repair (e.g., free-floating testosterone). For example, transitions from day to night operations in U.S. Army Rangers acutely arrest the release of circadian-driven factors, presenting an increased risk for injury and burnout.[05]

From the perspective of performance, warfighters — under limited acuity — must rapidly respond and react to unpredictable stimuli, traverse across challenging terrain, and swiftly and strategically execute command and control of movement and maneuver. Subterranean operations present an additional set of challenges to include: (i) time to train; (ii) time to acclimate; (iii) the ability to monitor health and performance in real-time for purposes of sustainment and survival; (iv) and even understanding redeployment impacts on psychological health. In order to mitigate risk for human health and performance in subterranean environments, the medical acquisitions community must rely on technological advancements suited for sustainment and survivability to include but not limited to: (i) augmented night-vision (scotopic) capabilities combined with technologies designed to preserve sensitivity to light (photic); (ii) adhesive transcutaneous patches that time-release hormones and nutritional supplements; (iii) precision medicine-tailored MREs; and (iv) human-machine interfaces (i.e., wearables, monitors, and devices) that can entrain rhythms of human physiology and behavior

under conditions of constant routine.

In order to develop these technologies, it is imperative to understand how a physiological attribute required for mission success is negatively impacted by a subterranean environment and also what science and technology innovations can be leveraged to fill this capability gap. To this end, **Table 1** summarizes the first, second, and third-order impacts of subterranean operations on fatigue, hormones, and mood. The "materiel solutions" column serves to identify potential solutions or areas of interest for further research and development.

TABLE 1 - First, Second, and Third-order impact of Subterranean Operations on Physiological Attributes.

Fatigue	Hormones	Mood
SUBTERRANEAN IMPACT		
FIRST-ORDER: Increased fatigue with highest predictability of fatigue in "middle" of waking afternoon and middle of "nighttime" sleeping episode (under standard light-dark cycle). **SECOND-ORDER:** As subterranean missions continue, predicted high points and low points of fatigue will progressively delay and/or become less predictable underground, requiring interventions to re-entrain.	**FIRST-ORDER:** Circadian-driven rhythms of hormone release and byproducts (e.g., sleep factors, digestive factors, and stress factors) will progressively delay and/or uncouple. **SECOND-ORDER:** Misalignment in timed release of these hormone factors and byproducts will directly increase fatigue and worsen mood.	**FIRST-ORDER:** Increased risk for depression, anxiety, and poor immune health due to lack of sunlight. **SECOND-ORDER:** Increased feelings of depression increase fatigue. **THIRD-ORDER:** Increased feelings of anxiety diminish quality sleep during limited sleep opportunities, increasing next-day fatigue.
MATERIEL SOLUTIONS		
• Blue-light "recipe" presentations for predicted times of "sunrise", "sunset", and other predicted time points of high fatigue across the waking "day" to optimize vigilance and wakefulness • Predictable times of food intake as a secondary timekeeper. Use of adhesive transcutaneous patches that time-release hormones and nutritional supplements and/or precision medicine-tailored MREs to help stabilize vigilance and wakefulness. • Constant social interaction across the waking "day" to increase robustness of vigilance and wakefulness.	• Blue-light "recipe" presentations for predicted times of "sunrise", "sunset", and other predicted time points of high fatigue across the waking "day" to stabilize circadian-driven release of cortisol (waking), melatonin (sleep), and testosterone/ growth hormone (sleep). • Predictable times of food intake as a secondary timekeeper. Use of adhesive transcutaneous patches that time-release hormones and nutritional supplements and/or precision medicine-tailored MREs to help stabilize digestive hormones (ghrelin), cardiometabolic factors (angiotensin), and immune factors (interleukins).	• Blue-light "recipe" presentations for predicted times of "sunrise", "sunset", and other predicted time points of high fatigue across the waking "day" to optimize positive affect. • Constant social interaction across the waking "day" to increase robustness of positive affect and belongingness.

To conclude, the current literature can guide our knowledge and understanding of the physiological challenges that warfighters will face in subterranean environments, but it does not offer a complete picture of how sustainment and survivability will be possible. Essentially, if we want to maintain battlefield overmatch and win our nation's war, we must extend our knowledge to aggressive research, development, testing, and evaluation of materiel solutions. The contemporary use of complex underground tunnels (e.g. Hamas, cartels, etc.) may very well be a prelude to the next generation of irregular warfare.

About the Author: Maj. Allison Brager previously served as a research psychologist at the U.S. Army John F. Kennedy Special Warfare Center and School. She now serves as an assistant professor in the Department of Behavioral Sciences and Leadership at the United States Military Academy, West Point, New York.

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Originally Published: Aug. 4, 2025

Transforming Dental Support to the U.S. Army Special Operations Center of Excellence
By Lt. Col. Ross K. Cook, Maj. Abby L. Raymond, retired Col. Gerald W. Surrett, retired Maj. Gen. Thomas R. Tempel Jr., and retired Chief Warrant Officer 4 Gary T. Shimizu

Special Operations Forces (SOF) operate in high-stakes, austere environments where dental emergencies can jeopardize operator readiness and mission success. The spectrum of support provided by Army dentists ensures operators remain deployable and effective in these dynamic environments. Army dentists, as critical medical enablers, must have a deep understanding of SOF's unique mission and culture to deliver timely, effective care and training. While Army dentists have historically contributed to unit readiness and operational outcomes, dental representation within SOF remains limited to Special Forces (SF) groups and the Civil Affairs brigade, leaving gaps in capability and mentorship. A dental officer assigned to the United States Army's Special Operations Center of Excellence (SOCoE) would provide SOF medics and dentists with an advocate and mentor at this critical command level. This article examines the Army Dental Corps' engagement with SOF, identifies deficiencies in current dental support, and proposes a path to enhance the delivery of care, medical training, and force readiness. By integrating an experienced SOF dentist in a key position, the Army can strengthen operator health, improve training outcomes, and ensure mission success in any environment.

Dental Support to U.S. Army Special Operations

An Army dentist's contributions to SOF encompass three key areas: garrison clinical care, expeditionary demands, and the training of SOF medics. In garrison, dentists provide direct patient care and specialist referrals, ensuring operator readiness and minimizing dental emergencies. Dentists enhance the flexibility of dental clinics supporting SOF, capitalizing on limited windows to deliver care. However, the Dental Corps and SOF must deepen their mutual understanding of each other to overcome barriers to care delivery and to recognize the risks of neglecting dental readiness. Senior-level mentorship and advocacy are crucial for addressing these challenges and preserving critical lessons for long-term knowledge management. Downrange, the utilization of dentists to support operational requirements can be a significant force multiplier for the SOF enterprise. Historically, Army dentists have supported SOF core

activities, such as Foreign Internal Defense and Unconventional Warfare, by leveraging expeditionary dental support to marginalized communities to build relations and expand civil networks. During the Global War on Terror (GWOT), SOF dentists served as force multipliers, leveraging dental care as a platform to build trust and provide commanders with avenues for access and placement. Additionally, when dental needs exceed organic medical capabilities of teams while downrange, SOF dentists can deploy to provide advanced care. It is this understanding of operational environments and the ability to align dental capabilities with SOF-specific missions that makes Army dentists indispensable enablers.

Additionally, the training of SOF medics is a critical aspect of an Army dentist's support to SOF units. Nicholson et al. estimated that up to 17% of prolonged field care casualties could be dental emergencies.[01] In denied spaces with prolonged evacuation times, these casualties can accumulate and deteriorate, depleting already limited resources. SOF medics manage these emergencies when dentists are unavailable, but their competent practice of expeditionary dentistry relies on robust training. Through medical proficiency training and non-trauma modules (NTM), Army dentists enhance the basic dental skills and knowledge that SOF medics receive during courses at the Joint Special Operations Medical Training Center (JSOMTC). During NTMs, Army dentists hone a medic's skills and make recommendations on instrument selection and material usage. These modules become the foundation of SOF medics' dental knowledge and experience, which they then apply operationally.

Obstacles to the Treatment of SOF Patients and Training of SOF Medics

Army dentist performs dental work on a Soldier during a field training exercise held recently at Baumholder, Germany. (U.S. Army photo by Kirk Frady)

Despite the importance of dental support, significant obstacles remain to the effective treatment of SOF patients and training of SOF medics. This is particularly evident at Fort Bragg's dental clinics, which encounter challenges in providing comprehensive care to SOCoE students throughout their training phases. Students often delay essential medical and dental treatments to avoid interrupting training schedules. Additionally, during the authors' tenure as SF group providers, emergent dental needs were often inaccurately documented or poorly tracked during transitions to permanent duty stations, leading to complications in follow-on care. In contrast, SOCoE instructors have prime opportunities to address previously deferred treatments due to training or deployments. However, without a dedicated dentist assigned to the SOCoE for direct treatment and advocacy for specialty referrals, only basic needs are likely to be resolved. Preferably, both students and instructors should depart the SOCoE healthy for deployment, or with follow-on care coordinated at their next assignment.

Enlisted dental assistant Soldiers training on the latest digital dentistry technology. (U.S. Army photo by Kirk Frady)

During operations in Iraq and Afghanistan, 24% of dental disease non-battle injuries (D-DNBI) among U.S. Army personnel were classified as high or moderate severity, with D-DNBI risks escalating 4.6% per additional deployment month.[02] SOF deployments, ranging from weeks to several months, often leave the SOF medic as the sole dental resource available. SOF medics are expected to provide advanced-level dental care in emergencies; however, they often lack sufficient practice or preparation, despite their initial exposure to dental care during their training at the SOCoE. A 2015 survey by COL Ramey Wilson of SF medics undergoing refresher training rated dental skills as "low confidence, moderately high importance," underscoring the need for improved skill development and sustainment.[03] Currently, experienced and invaluable U.S. Army Reserve dentists provide monthly training at the JSOMTC. However, these dental officers lack a full-time, active-duty dental subject matter expert (SME) to lead dental education or provide clinical care at Fort Bragg. Post-SOCoE, dental training is intended to continue at the unit level in dental treatment facilities. But no standardized dental curriculum exists for SOF medics, and dentists typically train based on their own experience. Furthermore, obstacles arise

when dental treatment facilities are hesitant to allow SOF medics to practice dentistry under supervision. This reliance on individual dentists' experiences and local agreements with dental facilities introduces vulnerabilities into the sustainment of dental training among SOF medics.

Recommendation: Integrating Permanent Dental Capabilities at the SOCoE

In 2019, the area of concentration for SF group dentists shifted to 63B (Comprehensive Dentist), equipping groups with providers who undergo a two-year residency. The change provided SF groups with a dental officer better prepared to manage complex cases, enhanced SF medic training, and minimized the potential for evacuation in anti-access/area denial scenarios. Additionally, 63Bs have played a critical role in the Dental Corps' modernization initiative. The dental equipment issued to SOF units for over two decades is ill-suited to mission demands. The emphasis on preparation for LSCO means that both conventional and unconventional units demand an agile dental sustainment response. SOF's practice of expeditionary dentistry serves as a model for the ongoing effort to develop lighter, more scalable dental equipment sets. The integration of 63Bs demonstrates that incorporating dental capability at key echelons directly drives the optimization of dental support to SOF in treatment and training.

Nicholson et al. estimated that up to 17 percent of prolonged field care casualties could be dental emergencies.[01] (U.S. Army photo K. Kassens)

Despite this, no dental positions exist within SOF beyond those at SF groups and the Civil Affairs brigade. Establishing a new clinical and administrative position would elevate dental care for SOF Soldiers, while creating an additional career-broadening experience for Army dentists. This billet, ideally for an O-4 to O-5 with prior dental experience in SOF units, would provide SOCoE students and instructors access to a dedicated provider with a flexible schedule. Through referrals to specialty providers, the SOCoE dentist could facilitate the completion of complex treatments for SOCoE patients, allowing them to utilize this time to achieve optimum health

before reintegration with the operational force. Moreover, this role would ensure continuity and modernization of dental instruction for SOF medics at the JSOMTC and across SOF units by fostering dialogue among active-duty and National Guard SOF dentists. Such a position would optimize the treatment and training of SOCoE personnel and provide the Dental Corps with a colleague and advocate at the SOCoE, thereby effectively addressing current obstacles to the training and care of SOF personnel.

Conclusion

Dentistry plays a pivotal role in Soldier readiness and quality of life, particularly within SOF, where operational demands amplify the risks of dental issues. Applying conventional care models to unconventional units results in systemic shortcomings that undermine Soldier needs and hinder support for SOF activities. Addressing the unique requirements of SOF missions demands a tailored strategy to bolster readiness and training. Assigning a dentist with deep Special Operations expertise at SOCoE can bridge longstanding capability gaps between the Dental Corps and SOF. This enhanced collaboration will deliver superior outcomes in treatment, training, and mentorship, ensuring SOF operators remain mission-ready for future battlefields.

About the Authors

Lt. Col. Ross Cook is a comprehensive dentist, the Assistant Program Director for FT Campbell's 1-Year AEGD residency, and the Army Dental Corps' Operational Dentistry Deputy Consultant. Dr. Cook served as the 10th SFG(A) Group Dental Surgeon from 2014 to 2018 with deployments to Chad, Niger, Tajikistan, and Afghanistan. He served as the OIC of the Smoke Bomb Hill Dental Clinic at Fort Bragg from 2022 to 2023.

Maj. (Promotable) Abby Raymond is currently the 20th SFG(A) Group Dental Surgeon. He served on active duty from 2011 to 2016, where he was a Brigade Dental Surgeon for the 101st ABN DIV (AASLT) and 7th SFG(A), with deployments to Afghanistan and South America. In 2020, he deployed with 20th SFG(A) as the U.S. Planner (J-5) for SOJTF-OIR.

Col. (Retired) Gerald Surrett is a physician who previously served as an enlisted 18C and 18D, an SF Battalion and Group Surgeon, TSOC Surgeon, Diving Medical Officer at the SFUWO Combat Dive School, as a SOTF, SOJTF, and CJSOTF Surgeon (deployed), the USSOUTHCOM Command Surgeon, and as a brigade surgeon with an IBCT.

Maj. Gen. (Retired) Thomas Tempel served as the 1st SFG(A) Dental Surgeon and SOTF Dental Surgeon. He then went on to command at every level in the AMEDD from CPT to MG, serving as the 27th Corps Chief of the U.S. Army Dental Corps.

Chief Warrant Officer 4 (Retired) Gary Shimizu is a retired Special Forces Warrant Officer and former Special Forces Medic. He was drafted in 1972 and then enlisted in the Special Forces Medic program in 1974. He served as the SF Medical Supervisor/Diving Medical Technician on a SCUBA team in the 7th SF Group and Special Forces Detachment-Korea, and later as the Battalion Medical Supervisor, standing up 1/1st SFG(A) in Okinawa from 1983 to 1986. In 1986,

he was commissioned as a Special Forces Warrant Officer, serving in 1/1st SFG(A), 2/1st SFG(A), 1st SFG(A), and USASOC Army Compartmented Element (ACE). He retired in 2002 and continues to serve as an Army Civilian at USASOC.

Disclosures: The authors have no financial disclosures to report.

Disclaimer: The opinions and views contained herein are the private views of the authors and are not to be construed as official or reflecting the views of the Department of War or U.S. Government.

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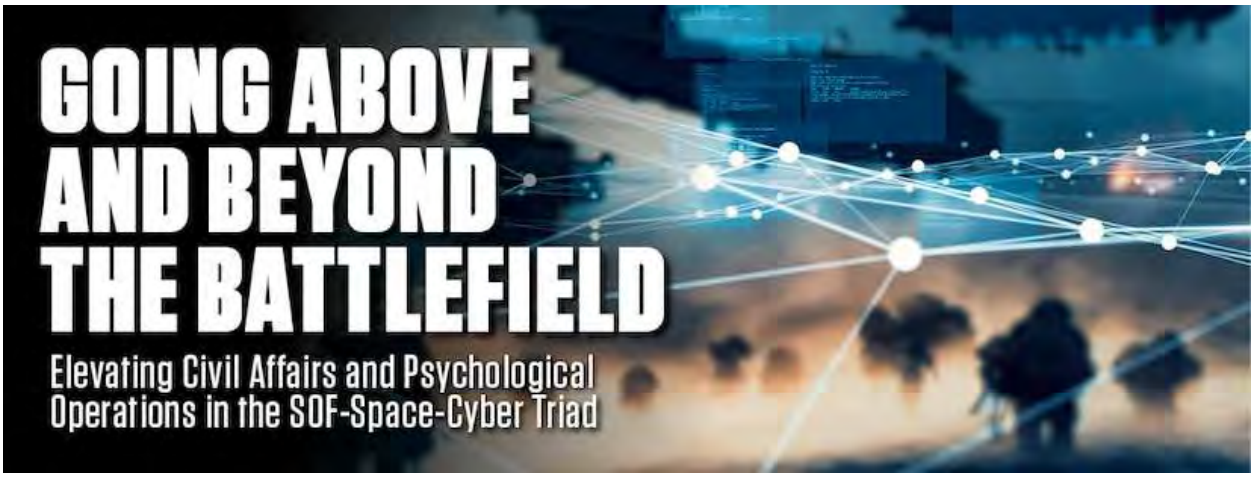

Originally Published: Aug. 7, 2025

Going Above and Beyond the Battlefield: Elevating Civil Affairs and Psychological Operations in the SOF-Space-Cyber Triad

By Col. Chaveso "Chevy" Cook, Lt. Col. Nicole Alexander, and Maj. Charlie Phelps

Fictional Vignette: Operation SPECTER HORIZON

In the vast expanse of the Indo-Pacific, a rising regional power engages in covert influence operations and malign activities. These efforts include cyberattacks on critical infrastructure, disinformation campaigns targeting vulnerable populations, and territorial expansion in the South China Sea. To counter these threats, the United States Indo-Pacific Command (USINDOPACOM) mobilizes space, cyber, and special operations capabilities as the primary tools to create decisive effects.

Highly trained in maritime operations, a 12-man Special Forces operational detachment-alpha (ODA) infiltrates a derelict, decommissioned oil rig controlled by the adversary. The ODA disables a set of radars tracking U.S. and allied naval assets, as well as commercial fishing vessels. Using advanced signal-jamming equipment, the team deploys silent drones to neutralize additional radar and communication infrastructure, rendering enemy communications inoperative. During exfil from the objective, the ODA places digital beacons to deceive enemy forces, creating the illusion of unhindered, routine enemy patrols in the area. Ultimately, the ODA's actions significantly degrade the adversary force's ability to interdict friendly maritime activity.

Simultaneously, a Civil Affairs team operates on the ground in a nearby island nation increasingly influenced by the adversary's economic and political pressure. The team works with local officials to distribute emergency humanitarian aid, rebuild infrastructure damaged by a recent natural disaster, and launch public health campaigns. By fostering goodwill within the local population, the team prevents the adversary from exploiting local frustrations and dividing public opinion. Their efforts to provide humanitarian aid and medical support to a key village enable the ODA to prepare and launch their operation from a site within the village. Through targeted efforts, the Civil Affairs team also provides mobile internet access via satellite to key

villages, bypassing the adversary's attempts to control online information. Using an encrypted network, they collaborate with a Psychological Operations team to broadcast real-time reports on the true situation in contested regions, countering the adversary's false narratives and encouraging anti-occupation sentiment.

Concurrently, additional Psychological Operations detachments initiate a regional information campaign to target the adversary's key officials and military leadership. Using advanced data mining and cyberspace capabilities, they track internal communications between adversary commanders, exposing corruption, betrayal, and hidden financial deals. These findings are disseminated to create dissent within the adversary's ranks, further weakening their morale.

Such operations rely upon close integration with both the United States Space Command and United States Cyber Command, as well as interagency partners. Satellites and surveillance systems continuously monitor enemy movements to support the Special Forces ODA's movement to their objective. The drones employed by the ODA are linked to the Space Surveillance Network and receive automated instructions to assist in real-time targeting during their mission.

In parallel, cyber warfare units initiate a series of targeted strikes against the adversary's local military command and control (C2) systems. Using cyber capabilities, units on the ground open a conduit to the adversary's social media platforms, allowing for a strategic flood of misleading information developed by the Psychological Operations detachments and designed to cause confusion and delay decision-making processes. As a result, key channels are taken offline for 72 hours, neutralizing the adversary's propaganda machine.

The United States, in close cooperation with regional allies, enhances its influence in the Indo-Pacific, neutralizes immediate threats, and shifts the balance of power towards diplomatic solutions. The Special Operations Forces (SOF)-Space-Cyber Triad's efforts in Operation SPECTER HORIZON are heralded as a triumph, proving that Space, Cyber, Special Forces, Civil Affairs, and Psychological Operations capabilities can work in tandem to disrupt adversary malign activities.

Framing

The above fictional operation could soon become a reality. As the U.S. military faces the complex challenges of modern warfare, the role of Operations in the Information Environment (OIE), particularly in the cyberspace and space domains, has come to the forefront of national security discussions. Within the changing context of military operations, the SOF-Space-Cyber Triad has emerged as a key strategic framework that seeks to help illustrate the ways and means of harnessing OIE towards a greater competitive advantage over our adversaries. This competitive advantage is defined by the convergence of trans-regional, multi-domain, and joint capabilities across the spectrum of conflict now and into the future. Each part of the Triad relies on the other components to deliver asymmetric impacts before, during, and after conflict. SOF, when properly trained and employed in this construct, offers the Joint Force agility, endurance, convergence, and depth.

SOF's unparalleled access, along with a nuanced understanding of the operational environment and a focus on the human dimension, are all critical components of the Triad. Within SOF, Civil Affairs and Psychological Operations are trained, manned, and equipped for information activities. However, in most discussions about SOF capabilities within the Triad, Civil Affairs and Psychological Operations are often underemphasized or overlooked. This article aims to highlight the opportunities and advantages that Civil Affairs and Psychological Operations units bring to the SOF-Space-Cyber Triad in order to maximize SOF contributions to U.S. military operations.

Civil Affairs: Understanding and Leveraging the Civil Environment

Adversaries increasingly choose to compete in non-lethal spaces, leveraging tools outside the military domain to achieve dominance without direct conflict. Through humanitarian assistance, cultural influence, economic initiatives, and diplomatic efforts, they actively operate within the civil environment, vying for influence and strategic advantage. These efforts are often bolstered by their willingness to disregard international norms and laws. Civil Affairs capabilities play a vital role in countering these strategies as critical assets for analyzing and understanding the complexities of the civil environment, including key infrastructure, influential local figures, and political and cultural dynamics.

Civil Affairs executes civil reconnaissance (CR) and civil engagement (CE) to provide civil knowledge integration (CKI) products that showcase capabilities and vulnerabilities in the operational environment. In other words, CA teams serve as the commander's eyes and ears to the civil populace, providing access and insight into key stakeholders and vulnerabilities within an area. From electrical infrastructure to local leaders to political and cultural dynamics, Civil Affairs elements are mapping and developing networks to ensure a competitive battlefield advantage. These networks and relationships offer a diverse opportunity for access that differs from the security forces environment, which often is focused solely on the protection and defense of the populace against aggressors. Additionally, understanding the civil environment not only informs targeting by providing a different view of adversary operations, but also helps commanders make informed decisions about risks and opportunities with the utilization of the SOF-Space-Cyber Triad. Finally, when layered appropriately, Civil Affairs executes operations to consolidate gains and prevent adversary exploitation of destabilized or chaotic operational environments.

Civil Affairs missions have a broad spectrum of activities that provide an understanding of the operational environment, including foreign humanitarian assistance and support to governance during armed conflict. Additionally, Civil Affairs may be employed in politically sensitive environments to identify indigenous networks, build capacity for operationally relevant partners, and conduct operational preparation of the environment. The identified indigenous and governance networks can directly aid the Triad. The human dimension, often neglected in favor of technological advancements, is central to the success of any military operation.

Triad activities often focus on understanding and countering adversary efforts to disguise their intentions and activities. These efforts may manifest through economic investments, the operations of civil society organizations, or influence within academia. Civil Affairs has the unique capabilities and focus to engage or interact with such organizations and activities. Area assessments, atmospherics, and targeted CE provide insight into how adversaries may be conditioning, developing, and influencing the operational environment. Identification of key civil networks or critical infrastructure related to operational objectives also enables SOF elements to engage the strategic targets of USCYBERCOM or USSPACECOM. By identifying and engaging key civil networks and infrastructure, SOF elements help build resilience against adversary influence, protecting critical systems such as infrastructure, local economies, and governance from disruption.

Psychological Operations: The Information Frontline

Psychological Operations forces remain an irreplaceable component of modern influence. The information environment, increasingly shaped by the use of disinformation and propaganda, is as critical as any physical battlefield. As highlighted by the Department of Defense's institutionalization of the influence cross-functional team and strategic information oversight board, influence and perception management are priorities within the national security apparatus. The ability to deter, influence, or contest rivals through information advantage, and the erosion of an adversary's legitimacy, will, or credibility, remains critical. In the context of the SOF-Space-Cyber Triad, Army Psychological Operations units operate in coordination with cyberspace and space assets, or with cyberspace and space capabilities, in support of their influence activities. These activities change behavior, adjust narratives, influence enemy decision-making, and shape foreign public opinion in favor of U.S. objectives.

Psychological Operations units' ability to affect the information environment will be crucial in a future conflict with China, where both sides are expected to participate in large-scale OIE. To mass effects in the information environment against a global competitor like China, Psychological Operations units will be the main effort, alongside the Department of State, to integrate information forces. This is already occurring. China's well-documented influence campaigns—both domestically and internationally—demonstrate its commitment to attempting to control the narrative.[01]

Psychological Operations units maintain the ability to use cyberspace and space-enabled tools to disrupt adversary communications and spread counter-messaging that emphasizes adversary government overreach or violations of international law. Additionally, U.S. narratives could be further amplified with space-based intelligence, surveillance, and reconnaissance systems (ISR), which provide real-time intelligence on adversary movements and operations. Masking and covering actions while amplifying other influence efforts is a means by which Psychological Operations units could scale impacts in the information environment.

One of the enduring strategic values of Army special operations forces (ARSOF) is "influencing

relevant audiences to change perceptions, behaviors, and decisions."[02] Further integrating Psychological Operations unit capabilities into the SOF-Space-Cyber Triad brings that value to the forefront. Importantly, Psychological Operations units maintain global reach, persistence, endurance, and responsiveness.[03] As the Army looks to streamline and transform its Information Forces, this reach, persistence, endurance, and responsiveness will grow in capability and capacity. Special Forces and Civil Affairs teams, in tandem with Psychological Operations Soldiers, establish relationships with key influencers in contested regions, thereby ensuring that U.S. influence is tailored to resonate with local populations.

Special Forces in the Cyber-Space Domain: An Evolved Partnership

The role of Special Forces ODAs has evolved beyond the traditional framework of unconventional warfare. Their expertise now spans the integration of advanced technological tools within the broader SOF-Space-Cyber Triad. Special Forces are uniquely positioned to execute operations where human networks meet technological innovation. As asymmetric warfare increasingly hinges on cyber dominance and control of space assets, ODA teams will become critical nodes of influence in the larger strategic web.

While much focus is placed on their unconventional warfare and foreign internal defense missions, ODAs also have an unparalleled capacity to integrate cyber and space assets with on-the-ground networks.[04] In a future conflict with China, where control over the electromagnetic spectrum and satellite communications may determine the pace and scope of operations, Special Forces will leverage their deep cultural knowledge and relationships within contested environments to guide cyber and space-enabled precision strikes. Their ability to place and, therefore, expose an enemy to key technologies will contribute to the generation of convergence against the critical capabilities and vulnerabilities of the enemy. But more than just consumers of these technologies, they act as forward-deployed decision-makers, translating complex cyber capabilities into contextually relevant actions within denied or degraded environments.

In practice, this can manifest in operations where cyberattacks disrupt enemy communications and space-based ISR assets deliver real-time data for assessments of enemy movements. Special Forces, embedded with local resistance forces or partnered with indigenous allies, would be responsible for making rapid, informed decisions on how best to exploit these disruptions. In this manner, Special Forces facilitate deep area sensing and contribute to the joint force's efforts to conduct deep area fires.[05] Their ability to interpret and act on complex information provided by cyber and space forces allows for tactical flexibility that adversaries may find challenging to counter, exemplifying the multi-domain operations tenets of agility and depth.[06]

As the SOF-Space-Cyber Triad continues to evolve, Special Forces stand at the forefront of the U.S. military's hybrid warfare capabilities. Their ability to fuse indigenous approaches with cutting-edge technology ensures that future U.S. operations are not only lethal but also

strategically decisive, allowing for agile responses in a rapidly evolving battlefield. Their capacity to bridge the technological-human divide and provide access while enabling space and cyber effects will be central to U.S. success in the complex, multi-domain operations of the future.

Civil Affairs and Psychological Operations: A Unified Approach to Cyber and Space Integration

Civil Affairs and Psychological Operations unit capabilities are inherently complementary. Together, they offer a more comprehensive approach to influence, one that is grounded in both on-the-ground engagement and large-scale influence activities. In the SOF-Space-Cyber Triad, their combined efforts can translate tactical and operational effects into strategic success.

For instance, in a future conflict, cyberattacks could be used to sever adversary communications, while space-based ISR tracks the movements of local populations and leadership. The operational environment would be congested and opaque, obscuring the joint force's ability to visualize and understand the impacts on the ground and consolidate the advantages gained from the operation. Deployed and CONUS-based Civil Affairs elements would use their authorities in the civil environment to support continued governance, resilience, and stabilization. However, more importantly for the commander, their access and civil networks on the ground would help visualize the physical and cognitive layers of the battlefield to develop a common picture and identify additional opportunities to gain advantage and influence over our adversary. Simultaneously, Psychological Operations units could exploit the information vacuum created by the cyberattacks, using targeted messaging to undermine the legitimacy of adversary control in the conflict zone.

A truly effective SOF-Space-Cyber Triad cannot exist without the full integration of Civil Affairs and Psychological Operations units. These two capabilities ensure that the technological advantages provided by cyber and space operations translate into strategic influence and physical advantages on the ground. In a future conflict with China, where control of the narrative and the human dimension will be as important as control of the physical battlefield, Army Civil Affairs and Psychological Operations units will be critical to success. According to recent security assessments, China is already fighting us cognitively via these very means.[07]

Conclusion: Elevating Civil Affairs and Psychological Operations for Future Success

The ARSOF Strategy 2030 highlights the need for information advantage, particularly through cyber and space capabilities.[08] Cyber and space operations are as much a vehicle as they are the domain and environment of choice for gaining information advantage. While they are not interchangeable with ODAs, Civil Affairs and Psychological Operations units offer a different means to operationalize the Triad. As the U.S. military adapts to the evolving threats posed by near-peer competitors like China, Civil Affairs and Psychological Operations capabilities must be fully integrated into the SOF-Space-Cyber Triad. The unique capabilities of Civil Affairs and Psychological Operations units in influencing populations, shaping the information environment, and restoring governance structures are critical to ensuring that the U.S. achieves its strategic objectives.

The battlefield of the future will not be defined solely by technological superiority in cyberspace and space; it will also be won through the ability to influence and control the human dimension. In a conflict with China, Civil Affairs and Psychological Operations units will be indispensable in countering Chinese influence, shaping public opinion, and building long-term stability in contested regions. Their integration into the SOF-Space-Cyber Triad will ensure that U.S. operations are not just tactically successful, but strategically decisive.

Without Civil Affairs and Psychological Operations capabilities, the SOF-Space-Cyber Triad may fall short of its potential as the U.S. risks losing the critical battles for influence and legitimacy. By fully embracing these forces, the U.S. military will be better positioned to face the challenges of 21st-century warfare and secure victory on every front—from the physical battlefield to the information and human domains.

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Originally Published: Aug. 28, 2025

Mission Command: Trust, Empowerment, and the Future Force

By Capt. Benjamin J. Daniels

Air Force Doctrine Publication 1 discusses mission command as a product of trust.[01] It is a philosophy of leadership that empowers commanders and operators in uncertain, complex, and rapidly changing environments through trust, shared awareness, and understanding of the commander's intent. Think back to Nimitz, the technological challenges of his era *required* trust, though it was his way of command regardless.[02] Modernity, conversely, does not inherently demand it; in fact, it often eschews trust, with compartmentalized information viewed as devoid of the necessary context for proper understanding. The ever-present challenge in modern military affairs persists: higher headquarters making snap judgments without grasping the "atmospherics" of the situation.[03] What then should commanders do with their pixel of information?

"It is for situational awareness," they protest.

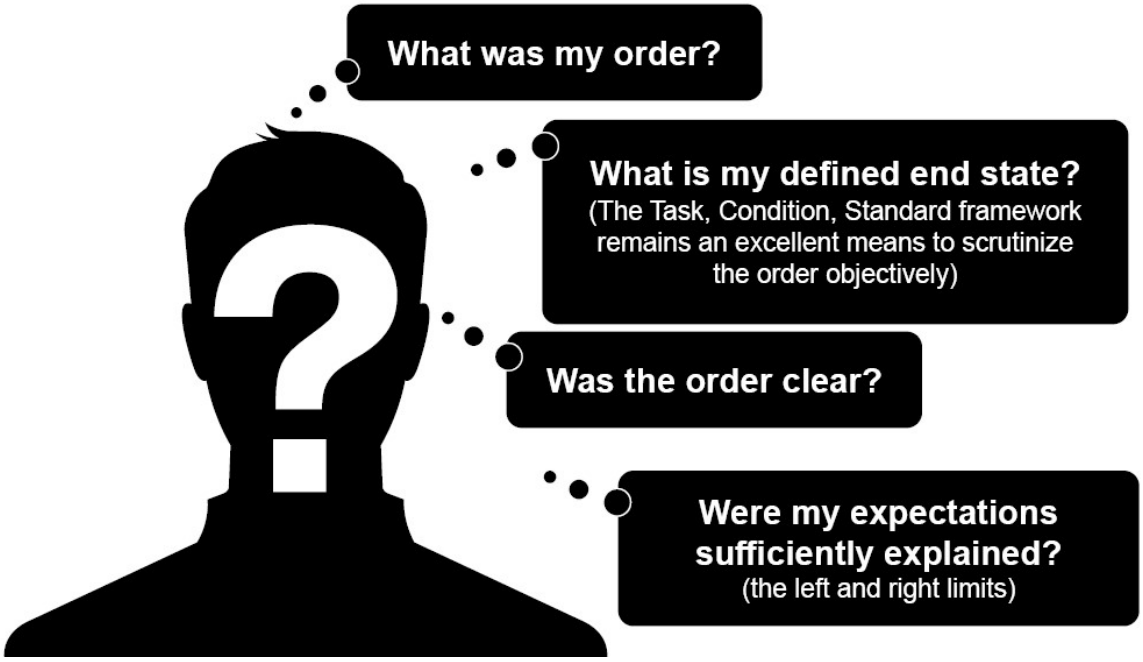
Yet, many wars have been fought and won without the commander in the echelon above knowing *precisely* what was unfolding below.

Modern operations, with all of their interconnectedness, must serve as both a testing ground and a crucible, forging trust between echelons. This trust, of course, is a two-way street, bidirectional, and every party must establish a shared understanding of the default measure of confidence. Subordinate commanders must *trust* that their superiors have conducted the necessary analysis and issued clear orders with the correct intent. In turn, the superior must *trust* that the subordinate tactical-level commander is acting in good faith, operating within the confines and the spirit of the given order. Interloping in such a command structure cannot be tolerated.

There is an undeniable human element—call it part curiosity, part hubris. The perceived "need" for superior commanders to intervene in their subordinates' tactical operations and dictate employment must be founded on something substantive. Yet, it is significantly challenging to

attribute this impulse to anything beyond, "Well, *I* wouldn't do it that way. He must not know. I will straighten this out." Instead of rectifying an issue, such intervention by superior commanders, more often than not, muddies the waters. It creates confusion and extends the kill chain.[04]

Consider a hypothetical situation: If a subordinate commander is not performing to the liking of a superior, and that superior feels the "need" to involve themselves, who is truly at fault? Before superior commanders interject, they must first undertake an introspective assessment:



Commander introspective assessment questions. What was my order? What is my defined end state (The Task, Condition, Standard framework remains an excellent means to scrutinize the order objectively)? Was the order clear? Were my expectations—the left and right limits—sufficiently explained? (Illustration by Special Warfare Staff)

If all these questions can be answered affirmatively by *both* parties, and corrective action is still demonstrably necessary, then, and only then, is superior echelon involvement warranted.

Let us introduce another wrinkle to this scenario: Assume all the above conditions are met—the order is clear, understood by both superior and subordinate—and the superior commander then receives (or already possesses) additional intelligence of vital importance. What, then, is the superior's course of action? They must inform the subordinate and, depending on the nature and criticality of the intelligence, either recommend or, if necessary, order an immediate adjustment to tactical operations.

Forging the Future Force: Mandates for Modern Military Leadership

How then does the U.S. military prepare itself, not merely to adapt, but to dominate the

battlefields of the next century and maintain its position as the predominant military power? The path forward requires a conscious evolution in command philosophy, centered on three core imperatives: unwavering trust, empowerment of subordinates, and the adaptation of the modes of command to the realities of future warfare.

The Bedrock of Trust

The cultivation of trust within a command climate cannot be a passive acknowledgment; it must be an active and relentless pursuit. Commanders, *at every echelon*, must labor to establish trust not as a reward for flawless performance, but as the default. The illusion of perfect oversight, offered by modern technological connectivity, must be recognized for what it is: a corrosive to the imperative of trust. Digital omnipresence does not negate the need for commanders to trust their subordinates, and for subordinates to trust their superiors. Indeed, the tendency for higher headquarters to render snap judgments that are by their nature devoid of tactical realities must be actively and systemically countered.

Confronting Hubris

The human element—that potent cocktail of curiosity and *hubris*—which fuels the perceived "need" for superior commanders to delve into the tactical minutiae of their subordinates' operations, must be confronted and mitigated. Before such intervention, a rigorous and honest introspection is demanded. Was the order unequivocally clear? Was the end state defined with precision? Were the operational boundaries and acceptable risks sufficiently articulated? Only when these questions are met with an affirmative, and a genuine shortfall in execution persists, should a superior commander's involvement be warranted to avoid catastrophe.

The Foundation of Disciplined Initiative

The articulation of clear, concise orders, anchored by well-defined end states and explicitly communicated risk parameters, is paramount to the concept of mission command.[05] This clarity is the bedrock upon which subordinate commanders can exercise disciplined initiative, which is the beating heart of agile and adaptive forces. Should intervention become necessary, it must proceed from a shared, unambiguous understanding that all parties comprehended the initial directives, or be precipitated by the emergence of new, critical intelligence that fundamentally alters the operational calculus.

Forging Trust Under Fire

Contingency and expeditionary operations must be viewed through a dual lens: not merely as missions to be executed, but as crucibles for tempering trust between commanders, which demands an unwavering, bidirectional commitment. Subordinate commanders must operate with the conviction that their superiors have conducted the requisite analysis and issued sound strategic intent. Conversely, superior commanders must vest their trust in the good faith and professional competence of their tactical leaders to act within the confines and spirit of the

order. Interloping, in such a system, is not merely unhelpful; it is an intolerable friction upon the architecture of command.

Delegated Authority

While the pursuit of information dominance remains a cornerstone of modern military strategy, its practical utility is severely limited if the appropriate authority to act upon that information is not granted to the *tactical* echelons. The conflation of enhanced information access with an assumed necessity for centralized decision-making is a dangerous fallacy.[06] It is a path that invariably curtails agility, blunts initiative, and diminishes the capacity of tactical commanders to seize fleeting opportunities.

The Imperative to Decentralize Now

The "luxury of connectedness," a defining feature of the Global War on Terror, is an indulgence the future battlefield does not afford.[07] Acknowledging this stark reality demands an immediate and active refocusing on communicating strategic intent and apportioning risk in a manner that *enables* subordinate commanders to operate effectively. To *restrict* a commander in environments that are characterized by degraded or denied communications is a fool's errand and destined for calamity. To fail in adapting command philosophies *now*, in an era of limited conflicts, is to actively prepare for failure when the specter of total war rears its head.

The deliberate embrace of these principles is not merely advisable; it is essential. Doing this today is how superior officers will cultivate a force that is not only more agile and adaptable but, ultimately, more lethal. This makes a force capable of thriving amidst the complexities and pace of modern warfare with all its uncertainties. The crux of this transformation resides in the oft-unglamorous labor of deliberately cultivating trust and unequivocally empowering the tactical leaders who stand closest to the combat.

Disclaimer

The views and opinions expressed in this writing are those of the Author and do not necessarily reflect the views or positions of any specific organization, the Department of War, or the U.S. Government. The contents of this manuscript have been vetted and cleared through the Author's OPSEC office.

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Originally Published: Sept. 3, 2025

Perspectives: Optimizing Time and Task Prioritization for Special Forces Training and Education
By Chief Warrant Officer 2 Wayne B. MacKay

The U.S. Army Special Forces Regiment faces a stark reality: too many training requirements and not enough time. This imbalance threatens operational readiness, forcing Special Forces Soldiers to juggle competing priorities while risking subpar performance in critical areas. To overcome this, the Regiment must adopt a focused, streamlined approach to training that prioritizes mission-essential tasks and mitigates the effects of overextension. Time is the most valuable resource. Without deliberate planning and prioritization, Special Forces Soldiers will be ill-prepared for the challenges of modern warfare.

A Special Forces operator launches a live loitering munition to conduct an attack on enemy vehicles that are approaching their location. Loitering munitions provide the Special Forces detachments the ability to conduct precision targeting and strikes when close air support is unavailable in the battlespace. (U.S. Army photo by Chief Warrant Officer 2 Wayne B. MacKay)

During the Global War on Terror, Special Forces units of action focused on mastering foundational combat skills such as marksmanship, reconnaissance, and close-quarters combat. These "green skills" ensured combat readiness and success in operations across Afghanistan, Iraq, and Syria. Today, however, the demands of large-scale combat operations, coupled with training for irregular warfare and multi-domain operations, require Special Forces Soldiers to expand their competencies into new realms, including advanced technologies and academic understanding of complex strategic concepts. The modern battlefield demands more than tactical expertise; it requires operational adaptability across all domains (land, sea, air, cyber, and space).

But the sheer volume of requirements overwhelms the Special Forces regiment. Administrative tasks, such as range packets, concept briefs, and training analyses—consume valuable time, while recurring meetings further detract from training opportunities. Core tasks like language proficiency, airborne readiness, and demolition training add to the burden, compounded by specialty certifications for Mountaineering, Dive, and Military Free Fall detachments. The result is an overloaded long-range training calendar that leaves little room for focused, effective preparation. This relentless pace leads to burnout and compromises the quality of training, leaving Special Forces Soldiers struggling to maintain proficiency in mission-critical areas.

A Special Forces operator utilizes a quickie saw to bypass an obstacle while conducting close quarters combat. Adaptability is key for the Special Forces operators to secure their objectives rapidly and continue their mission. (U.S. Army photo by Chief Warrant Officer 2 Wayne B. MacKay)

The gap between training requirements and available time is particularly evident in the realm of multi-domain operations. This strategic concept integrates air, maritime, cyber, and space domains, demanding academic preparation to understand terminology, concepts, and operational effects. Yet opportunities for practical application are limited as Combat Training Center rotations, the gold standard for multi-domain operations training, are scarce and cannot fully replicate the complexity of large-scale operations. Without sufficient time to internalize and articulate multi-domain effects, Special Forces Soldiers risk falling short in their ability to execute strategic objectives.

Special Forces Operational Detachment – Alpha trains and utilizes emerging technologies while conducting a 72-hour prolonged field care exercise at the National Training Center, Fort Irwin, CA. Prolonged Field Care is an essential task for Units of Action training in dynamic environments which limit MEDEVAC capabilities. (U.S. Army photo by Chief Warrant Officer 2 Wayne B. MacKay)

To address these challenges, Special Forces leadership must prioritize training and streamline processes to optimize time usage. First, clear and concise training guidance is essential to focus efforts on mission-essential tasks while accepting risk on less critical activities. Second, academic programs should build foundational knowledge of multi-domain operations, ensuring shared institutional understanding and improving training outcomes. Finally, administrative processes must be reevaluated and redundant requirements eliminated to free up time for practical training. These adjustments will not only enhance operational readiness but also improve the health and morale of the force.

The solution is clear: prioritize, focus, and streamline. By giving time back to Special Forces Soldiers, the Regiment can elevate training quality, deepen academic understanding, and strengthen proficiency in mission-critical tasks. A deliberate, well-designed training plan mitigates the effects of overextension and ensures that SF soldiers are prepared to meet the demands of the future operating environment.

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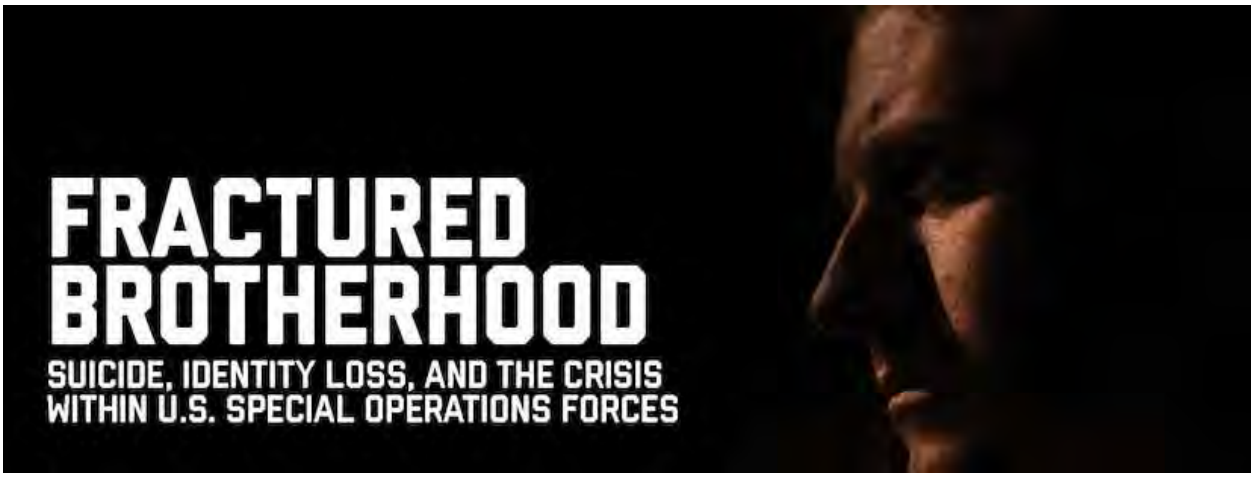
The views, opinions, and analysis expressed do not represent the position of the U.S. Army or the Department of War.



Originally Published: Sept. 10, 2025

Fractured Brotherhood: Suicide, Identity Loss, and the Crisis within U.S. Special Operations Forces

By Sgt. Maj. Keith Thomas

Throughout the years, the U.S. special operations community has suffered profound loss, both in combat and from within. The suicide epidemic among U.S. service members, particularly those within U.S. special operations forces (SOF), continues to challenge the Department of Defense, mental health professionals, and the foundations of our military culture. Each new death by suicide brings with it haunting echoes of a single, unanswerable question, "Why?" While numerous factors contribute to the elevated suicide rate in U.S. SOF, the most consequential and fundamental drivers are social isolation and loneliness resulting from the loss of their SOF communities. Peer-reviewed research consistently links loneliness and the loss of unit cohesion to elevated suicide risk among military populations. Teo demonstrates that loneliness strongly correlates with suicidal ideation and depressive symptoms in veterans receiving primary care.[01] Heward argues that the abrupt loss of military identity contributes to moral injury and psychological distress, particularly among those who experience involuntary separation or unresolved guilt after combat.[02] To gain a deeper understanding of the psychological impact of social isolation and loneliness, this paper utilizes Maslow's hierarchy of needs as a conceptual framework. Maslow's theory posits that human motivation is fundamentally driven by fulfilling physiological, safety, belonging, esteem, and self-actualization needs. Disruption in belonging and the perception of being a burden are core psychological predictors of suicidal ideation and behavior.[03]

The article, *Loneliness is Closely Associated with Depression Outcomes and Suicidal Ideation Among Military Veterans in Primary Care*, presents a model highlighting the particularly significant impact of loneliness.[1] This study identified increased Patient Health Questionnaire-9 (PHQ-9) scores and positive screens for suicidality among those service members experiencing loneliness. The PHQ-9, a nine-item self-report assessment, is a clinically significant measure used to screen depressive symptomatology and diagnose major depressive disorders.[04] Therefore, loneliness emerges as a critical mediating factor potentially contributing to depression and increased risk of suicide. Loss of purpose, institutional rejection, and the

abrupt disruption of military identity often create a psychological void that challenges successful reintegration. Reger argues that the loss of shared military identity and difficulties finding meaningful work may contribute to the increase in psychological distress and suicidality among veterans.[05]

Loss of community and the resulting loneliness are not merely a consequence of poor decisions or failed leadership; they stem from a deep connection between personal identity and institutional belonging. For many service members, the military represents more than a career—it is a source of home, family, and a sense of purpose. Abrupt severance from this environment, whether through administrative separation, disciplinary action, or natural attrition, can devastate mental stability. It is necessary to question whether our current structure is deficient in compassion. Could integrating rehabilitation measures before separation, such as trauma-informed counseling, mentorship programs, and connection to nonprofit support organizations, reduce suicide risk?

We must identify or create programs that accept individuals who left military service under less-than-favorable conditions. These individuals once served within our formations and sacrificed something that cannot be returned: their time. They wore the same uniform, endured the same hardships, and faced the same risks. However, those separating from service under adverse circumstances often find themselves excluded from the support systems available to their peers. Many organizations advocate for and provide resources to SOF veterans with honorable discharges, but some may offer fewer resources to those pushed out under unfavorable circumstances. Failing to acknowledge their service and provide opportunities for redemption risks compounding the isolation and shame that so often precedes suicide.

A more humane and strategically sound approach to addressing misconduct, declining performance, or psychological challenges within SOF requires prioritizing rehabilitation over immediate administrative separation. Rather than defaulting to punitive or exclusionary measures, commanders and administrative authorities should, where appropriate, pursue restorative interventions that address the underlying causes of a Soldier's misbehavior or operational decline. Such an approach not only supports individual well-being but also preserves valuable skills and experience within the force.

Rehabilitation programs grounded in trauma-informed care and therapeutic jurisprudence offer another model. A framework such as the Sanctuary Model facilitates access to behavioral health interventions, structured mentorship, and reintegration support.[06] For instance, rather than discharging a Soldier for alcohol-related incidents, a command could mandate participation in a structured treatment program that includes behavioral therapy, family support, and regular mental health evaluations. This approach preserves investment in highly trained operators and fulfills the military's ethical obligation to care for its members. Concurrently with rehabilitation efforts, establishing a robust and enduring post-service support network is essential to mitigate long-term psychological harm and reduce suicide risk.

The abrupt transition from active service to civilian life, particularly when involuntary or poorly

supported, often results in the loss of community, identity, and mission-driven purpose—foundational elements of psychological well-being for SOF personnel. To mitigate this disruption, organizations pioneered effective models for maintaining connection and fostering resilience, which are great models to mirror. These organizations provide structured peer support networks, regular wellness check-ins, transition mentorship, and access to mental health professionals with expertise in the cultural nuances of SOF service. Their programs cultivate a sense of belonging, accountability, and a shared purpose that endures even after uniformed service.

These enduring networks offer lifelines for those separating under challenging circumstances or experiencing reintegration challenges. Moreover, they serve as repositories of institutional knowledge, enabling retired personnel to remain engaged in mentoring roles and contribute meaningfully to the broader SOF community. Institutionalizing these networks within the military's transition infrastructure would enhance continuity of care, reinforce long-term resilience, and demonstrate a commitment to holistic force sustainment.

The U.S. special operations community requires more than policy directives and preventative materials; it demands cultural transformation, proactive leadership engagement, and research grounded in the lived experiences of its operators. Prioritization must be given to tools that facilitate the reconstruction of meaning following loss, failure, and transition. Future studies should focus on interventions integrating psychological rehabilitation, community maintenance, and purposeful reconnection with values beyond military service. Only by providing sustained support to those who have endured these challenges can we hope to improve outcomes and ensure our warriors never face these battles alone.

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Originally Published: Sept. 25, 2025

Who We Are, What We Do: Framing the Special Forces Identity Debate

By Lt. Col. Gordon Richmond

Editors' Note: This article summarizes and frames an ongoing conversation about the role of Special Forces in future conflicts. It discusses multiple viewpoints from currently serving and retired members across the Special Forces Regiment. The author's goal is to provide three considerations for the community: the importance of historical precedent, the need to cultivate open forums for internal debate, and the necessity of bridging generational perspectives.

"Our nation will require answers without even knowing
the questions—but answer you will."
Command Sgt. Maj. Dave Waldo, addressing a graduating Special Forces Regimental First Formation in 2024[1]

Introduction

Over the past year, a public debate has emerged over the Special Forces Regiment's identity: who Green Berets are, what missions define us, and how we remain relevant in great-power competition. The conversation is occurring beyond official channels in LinkedIn posts, podcasts, and professional journals—an indicator that the community is wrestling with foundational questions.

In 2020, during his senior service college fellowship at Duke University, retired Colonel Ed Croot surveyed active-duty Green Berets to capture how they saw their missions and identity. He publicized his findings upon completion of the fellowship, appearing on multiple podcasts with the endorsement of 1st Special Forces Command (Airborne)—including a joint interview alongside then-commanding general Maj. Gen. John Brennan, who expressed support for his conclusions.[2] Despite this initial publicity, and the obvious relevance to the Special Forces Regiment, the results were never addressed openly through Special Forces professional forums. Four years later, Croot's research reemerged in his 2024 Joint Special Operations University (JSOU) monograph There Is an Identity Crisis in Special Forces, which contends that Special

Forces drifted from its foundational mission, producing three competing sub-identities and a measurable decline in commitment to unconventional warfare.[3] The JSOU publication prompted three written replies in less than a year's time.

The identity conversation in Special Forces is less about choosing sides in the debate than about sustaining a professional discourse on who we are and what we contribute in service to the nation. That discourse should be inclusive, drawing on voices from across the Special Forces community, and vigorous, welcoming professional disagreement. This article offers three considerations to help frame it in ways that are both productive and relevant to today's challenges.

An identity debate: A literature review

Croot's study used law, doctrine, and policy to generate 27 archetypes for Green Berets—a series of traits, skills and tasks, which he converted into survey questions. Croot found that respondents fit into three categories: a modern category, where respondents broadly agreed with all the archetypes; a direct action category, where Green Berets saw the greatest value in unilateral missions versus partnered ones; and a legacy category with an alignment toward pre-9/11 missions and lesser interest in contributing to either deterrence or competition. Croot found that 46% of the survey respondents fit the modern category, with 26% and 28% fitting the direct-action and legacy categories, respectively.[4]

Croot argued that this dissonance over mission implied a broken system of socialization, internal to the Regiment. As Special Forces recruits enter the Regiment, either from the civilian world or from the Army, they undergo a socialization process that conditions their expectations toward their role as Green Berets. Broad disagreement across experiences in recruiting, training, and operational phases blurs organizational purpose and produces what Croot calls an identity issue.

Retired Sgt. Maj. David Shell argues that Croot broadly fails to substantiate the existence of an identity issue. Shell argues that Croot assumes Special Forces culture to be monolithic when, in reality, each Special Forces group's culturally-distinct area of operation and different set of missions allowed for significant variation across the Regiment.[5] However, a deep reading of Croot's paper shows that he does account for Special Forces Group membership, and that the 'identity problem' that Croot was measuring was present within all five Regular Army Special Forces Groups, and not just between them.[6] Finally, even if deep-seated disagreement about purpose exists, Shell argues that Croot does not provide support for his linkage between an identity issue and ethical and moral failings by members of the Regiment.[7]

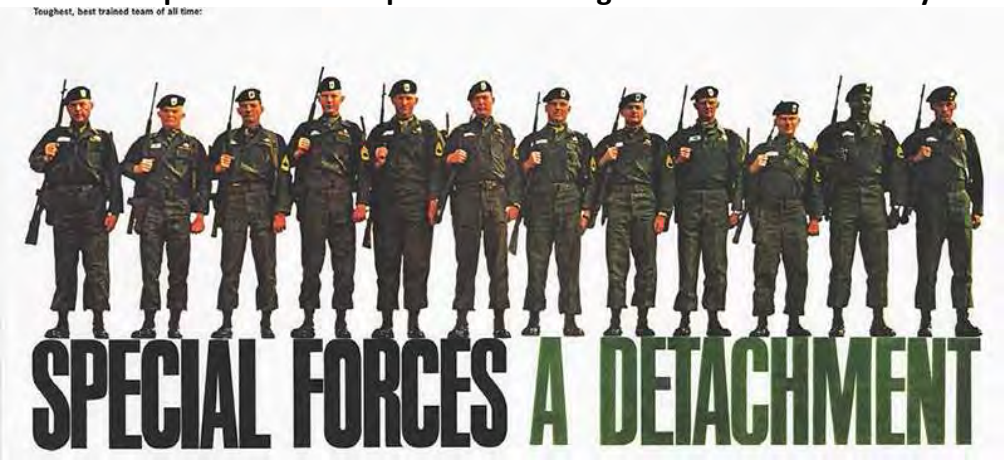
Retired Col. Greg Metzgar situates today's argument in a much longer arc, showing that doctrinal ambiguity and role shifts have followed every major strategic transition since the Cold War.[8] Dr. Siamak Naficy and Chief Warrant Officer 5 Maurice DuClos add yet another frame: that Special Forces' problem is not "mission creep" but "meaning creep"—a slow erosion of the shared culture centered around a common definition of unconventional warfare that once unified the Regiment.[9] All three broadly concur with Croot that Special Forces must re-center on

unconventional warfare to unify its culture. For Metzgar this means clear doctrine for the sake of both high-performance standards and the ability to communicate the value of Special Forces to key decision makers. For Naficy and DuClos culture itself is the immediate objective, and creating a unified regimental culture with unconventional warfare at its center will ensure Special Forces' continued viability.

Adding a sharper edge to this critique, retired Chief Warrant Officer 3 Sal Artiaga warns in a series of LinkedIn posts that, due to the influence of other SOF alumni in leadership positions, Special Forces is drifting toward a different operational model that privileges high-tech solutions such as AI, robotics, cyber capabilities, and rapid direct action over the slower, relationship-based, and traditionally Special Forces work in the human domain. Unlike the doctrinal framing of Metzgar or the cultural lens of Naficy and Duclos, Artiaga's intervention is rooted in first-hand concern that these priorities, if left unchecked, will erode the Regiment's comparative advantage in influence and access.[10]

Though they may not agree on the particulars, Metzgar, Naficy, and Duclos are in broad agreement that Special Forces is confronting a cultural problem. While Shell contests specifics of Croot's design and findings, both he and Artiaga identify the prevalence of other SOF-alumnus leadership as a threat to what they see as core Special Forces culture. Taken together, these perspectives show that today's dispute is not just about doctrine or culture in the abstract, but is about which skills, missions, and attributes define a Green Beret. While their conclusions differ, all agree that the stakes are high, and more introspection is required. What follows are three considerations—drawn from these authors' work, past Special Forces debates, and my own review of Special Warfare Journal archives—for both Special Forces senior leaders and the broader community.

1. Historical precedent: The Special Forces Regiment has faced identity debates before



A 1960s recruiting poster highlights the 12-man Operational Detachment-Alpha (ODA). (Image provided by USASOC History office, Veritas 2022)

Whether today's disagreements mark a true problem or simply a period of doctrinal recalibration depends on perspective, but the debate is not unprecedented. Metzgar traces how

Special Forces, born in the Cold War as a strategic unconventional warfare force, repeatedly adapted to shifting strategic conditions and demands from senior leaders. The post-Cold War drawdown of the 1990s triggered sustained internal debates over whether unconventional warfare remained relevant without a great-power adversary.

Those debates were neither brief nor peripheral. "Our force has lost sight of its purpose," wrote the 3rd Special Forces Group commander in 1999. "Our teams today are more comfortable conducting a long-range surveillance mission (disguised as special reconnaissance) or a Ranger-platoon raid (disguised as direct action) than they are of assessing and developing an unconventional warfare operational area and creating havoc in a denied area."[11]

While the post-Vietnam experience is often used as a parallel for the challenge that today's military confronts, a better analogy might be the 1990s Special Forces community. The end of the Cold War stripped the U.S. military of its immediate purpose. Civil wars in Somalia, the Balkans, and Colombia demonstrated that conflict was not going anywhere, but clarity of purpose for Special Forces was fleeting. Issues of Special Warfare Journal up until 9/11 are replete with articles debating how deeply Special Forces should invest in unconventional warfare, and whether the mission was even relevant in an era without a great power adversary. The parallels to Croot's allegations of 'mission drift' are hard to miss—and should remind us that today's sense of uncertainty is not unique.

However, the 1990s fault lines over Special Forces' core purpose were never truly resolved. Instead, 9/11 papered over any differences, handing the Regiment two regimes to topple and 20 years of counterinsurgency to fight. As those wars have finally receded, the unresolved questions of the 1990s have resurfaced again.

The implication: Identity debates seem to surface cyclically after major strategic shifts. Leaders should view them not as aberrations but as predictable inflection points, moments that deserve doctrinal clarity and conscious stewardship. While we can disagree with Croot's conclusions, his survey data is extensive and we must recognize that there is considerable disagreement over Special Forces' purpose, even if some of that disagreement coheres to each Special Forces Group's cultural norms.

2. Encouraging internal debate and diverse voices

In the 1990s, Special Warfare Journal regularly published attributional articles and letters to the editor questioning the branch's direction. This openness reflected either a command climate that welcomed dissent or the personal courage of contributors—or both. One of the key elements of the current debate described above is that it is occurring outside the purview of the U.S. Army Special Operations Command (USASOC) and away from traditional branch channels. While platforms like LinkedIn or JSOU Press might increase candor, they are unlikely to broaden participation within the Regiment. As Naficy and Duclos note, fragmentation of meaning accelerates when there is no shared forum for storytelling, mythmaking, and identity reinforcement.[12] Without official channels for constructive debate, the conversation risks

becoming narrow and disconnected from the Regiment's multigenerational ranks.

Croot's paper was not the first to raise concerns about the appropriateness of unconventional warfare as Special Forces' principal mission or about how the Regiment interpreted that mission. During the latter stages of the Global War on Terror (GWOT), articles on these themes appeared in multiple non-official outlets.[13] Yet Croot's work was distinctive in moving beyond anecdote, providing systematic insight into how a broad cross-section of active members of the Regiment perceived its role. While Special Warfare Journal carried multiple articles debating definitions of unconventional warfare in the first quarter of the 21st century, it did not host challenges to the command's vision in the way external outlets did. Even after Croot's 2020 paper revealed what appeared to be deep internal disagreements, the branch journal remained silent, and senior leaders declined to invite debate. Those subsequent debates unfolded outside official venues and diminished the influence of USASOC leadership in shaping the conversation. Had they occurred in Special Warfare Journal, leaders could have signaled support for dialogue and nudged it to serve the Regiment's broader interest.

The identity of the recent contributors to this debate is also important. Croot is notable in publicizing his original paper as a junior colonel in 2020, at significant professional risk. Other than Naficy, who is a civilian professor at the Naval Postgraduate School, the contributors to the recent debate are either long-retired (Metzgar), recently retired (Artiaga and Shell), or soon-to-retire (DuClos and Artiaga's anonymous command sergeant major) Green Berets. This implies that authors with more to lose professionally are less likely to contribute to public discourse that questions either the status quo or the direction of the Regiment. The choice of publishing venues and the profile of the authors should be a concern to leadership. If only those insulated from career risk are contributing, we risk mistaking a partial picture for the whole.

The *Special Warfare Journal* archives suggest the journal's heyday was in the 1990s, when each year issues carried active and retired voices openly challenging the Regiment's direction. By the mid-2000s, such pieces had largely disappeared, replaced by safer, topical articles that informed but rarely questioned the broader status quo. This retreat into caution was laid bare in 2020: even as Croot's survey findings sparked discussion, Special Warfare Journal carried no response, and soon afterward the branch journal stopped publishing. There was no correlation—*Special Warfare Journal* did not cease publishing to avoid Croot's study. However, as a publication in decline, producing increasingly sparse issues on an irregular basis, inviting debate over Croot's article might have revitalized the branch journal in 2020.

The implication: Senior leaders must actively cultivate forums, whether in *Special Warfare Journal* or elsewhere, where Special Forces members of all ranks and experiences can engage in sustained, professional dialogue about the Regiment's future. The return of *Special Warfare Journal* to regularly producing content as part of the Chief of Staff of the Army's Harding Project provides an opportunity to reframe debate as positively contributing to the fabric of our Regiment's culture. Even if senior leaders themselves do not heed the content of the debate, they can clearly signal that debate is healthy, encouraged, and comes without professional consequence to the participants.

3. Recognizing distinct generations within Special Forces

There are multiple generations within the broader Special Forces community, each bringing distinct perspectives to this debate. The "White Beards" are the earliest generation, who spent the bulk of their active careers before 9/11. The "Gray Beards" knew the pre-9/11 Army only as junior enlisted or company-grade officers. The "Black Beards" came of age during the GWOT, with those campaigns defining their formative years. The "Beardless" may have entered after 9/11, but Afghanistan, Iraq, and even Syria played only fleeting roles in their careers.

These groups map loosely onto American generational cohorts—Boomers, Generation X, Millennials, and Generation Z—yet their shared Special Forces experiences diverge sharply. White Beards are long retired, and Gray Beards fill the senior leadership roles. Both can recall a pre-9/11 Regiment and for these generations, the legacy of Special Forces is paramount. By contrast, the Black Beards and Beardless see little resonance in pre-9/11 references. For the Black Beards, there is only the GWOT and the post-GWOT. They knew the highs of extraordinary autonomy and purpose in the Middle East, and the lows of realizing the war could not be "won," however great their personal effort. For the Beardless, the war was something they missed—sometimes regretfully, especially for those who joined expecting to fight in Afghanistan, and sometimes indifferently, as background rather than motivation.

Croot opens his paper with a survey response that underscores this divide: "At the heart of the Green Berets' identity… is a generation only knowing the GWOT, with the next generation recruited on the promise of door-kicking raids, dynamic entries, and kill/capture methodologies." Yet his analysis never fully engages with the generational dynamics that quote makes plain. None of the solutions offered by Metzgar, DuClos, or Maficy are inherently objectionable, but any attempt to rebuild a monolithic Special Forces culture must speak across both unit and generational lines. The generational divide is not just about perspective but also about which missions and experiences are seen as defining what it means to be a Green Beret.

The implication: Bridging generational and subcultural divides requires more than revising doctrine. It demands deliberate efforts that expose members to the full spectrum of Special Forces' missions. Furthermore, senior leaders must cultivate cross-generational trust. One way to help build this is to carve out space in institutional mediums like Special Warfare Journal, and to demonstrate that their voices are heard and their perspectives valued.

Conclusion

Debates over Special Forces' identity are not signs of decline, but they are signs of a profession wrestling with its future. *Special Warfare Journal* editions from less than 30 years ago demonstrate that puzzling over our purpose is nothing new—on the contrary, it is likely a sign of organizational health. These past debates remind us that identity and questions over modernization are cyclical. They also show us that open and accessible forums only strengthen the Regiment. Just as the 1990s branch was shaped by Green Berets representing Vietnam, post-Vietnam, and post-Cold War generations, tomorrow's Special Forces regiment will be

shaped by generations reconciling their experiences with the GWOT. Current debates over missions, culture, and technology are not separate threads of the same underlying question: *What does it mean to be a Green Beret in the 21st century*?

Future debate might carry forward some questions that the authors cited here opened: How might Special Forces strike a balance between adopting more complex technical capabilities without losing a focus on the human domain? How do differences in Special Forces Group culture influence the orientation toward, and execution of, Special Forces missions? What are the consequences—positive and negative—of other SOF-alumni in leadership across echelons?

Senior Special Forces leaders must cultivate the quality of our internal discourse, the breadth of participation, and our ability to bridge generational divides. However, leaders cannot carry this burden alone. The Regiment must speak–everyone from our junior-most enlisted and company-grade officers to those long retired. Silence cedes the narrative, and if we do not define ourselves, others will. Leaders should throw down the gauntlet, but the community's response will decide the future. Our nation will continue to challenge us by demanding answers from Special Forces, even when the questions are unclear. Whether or not we rise to that challenge will define not just the Regiment's relevance, but our very identity.

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Originally Published: Sept. 30, 2025

Pursuing Higher Education: New Degree Pathways for Civil Affairs Special Operations Combat Medics

By Master Sgt. Gesna Davis and retired Command Sgt. Maj. Timothy Strong

The role of special operations combat medics continues to evolve alongside rapid advancements in military medicine. Special operations medics are specially selected Soldiers tasked with the delivery of critical care in complex environments, while also individually embracing opportunities to enhance their medical expertise through higher education. This article details the unique journey of the special operations combat medics enrolled in the Special Operations Civil Affairs Medical Sergeants (SOCAMS) Course, which is offered at the Joint Special Operations Medical Training Center (JSOMTC) at Fort Bragg, North Carolina. SOCAMS is where these medics embark on a distinctive educational path that culminates with a Bachelor of Science in Health Sciences (BSHS) degree in Global Community Health from the Uniformed Services University's (USU) College of Allied Health Sciences.[01]

A Dual Path—Education meets Training

The BSHS degree pathway through the JSOMTC and USU operationalizes Army Regulation (AR) 350-1 by integrating *training* and *education*. AR 350-1 distinguishes between the two, defining education as "the structured process to impart knowledge through teaching and learning, predominantly in the Institutional and Self Development Training Domain,"[02] and training as "a task or performance basis is used, and specific conditions and standards are used to assess individual and unit proficiency." AR 350-1 continues to describe education as being "traditionally delivered by an accredited institution and may relate to a current or future mission-related assignment."[03] While both are vital for personal and professional development, they serve distinct purposes and focus on different aspects of learning. Army training often includes educational elements; however, combining Army training with an accredited institution of higher education provides a more comprehensive and practical learning experience.

The Global Community Health BSHS program is a pioneering initiative requested by the Special Operations Center of Excellence and designed to meet the specific needs of SOCAMS (38W

military occupational specialty).[04] This innovative program allows students who complete the Special Operations Combat Medic course the ability to earn an Associate of Science in Health Sciences degree in Emergency Medical Services—Paramedic, followed by a Bachelor degree in Health Sciences after completing the full 38W pathway.[05]

Illustration timeline of the 38W Special Operations Combat Medic course. (Illustration provided by U.S. Army)

Visit https://www.swcs.mil/Portals/111/USU%20Degree%20plans_1.pdf for degree requirements.

The intensive 92-week curriculum emphasizes critical areas essential for Civil Affairs operations.[06] Students are trained in medical and veterinary care, preventive medicine, and collaboration with host-nation governments and non-government organizations. The curriculum's focus on teamwork, adaptability, and critical thinking equips these medics with the skills necessary to navigate the complexities of modern military engagements, where humanitarian considerations often intersect with tactical operations. The USU President approved the Global Community Health BSHS degree program in August 2023. The inaugural cohort of Special Operations Civil Affairs Medical Sergeant, SOCAMS class 23-001, commenced training on Aug. 23, 2023, and graduated on Dec. 20, 2024.

Curriculum Overview

The Global Community Health program provides comprehensive instruction across a wide array of subjects crucial for the multifaceted role of a 38W. Key areas of instruction include civil

information management, civil knowledge integration, trauma care, medical information management in challenging environments, medical civil-military operations, civilian engagement, understanding medical needs within a civil context, environmental health assessments, and risks related to food and water security, particularly in regions affected by conflict or disaster. The program also incorporates veterinary sciences and agricultural studies, recognizing the importance of animal health and agricultural stability to overall community health.

This robust curriculum is delivered through didactic instruction, virtual learning, and hands-on, performance-based training. Regionally accredited faculty and staff from the JSOMTC and USU provide education that develops a Soldier's general knowledge, capabilities, and character. Exposure to in-depth academic learning theories and concepts equips students with new skills and knowledge directly applicable to current or future mission-related assignments, ensuring they can translate theoretical understanding into practical operational skills.

Student in the Special Operations Combat Medic Course at the U.S. Army John F. Kennedy Special Warfare Center and School checks an intravenous bag during field training. (U.S. Army photo by K. Kassens)

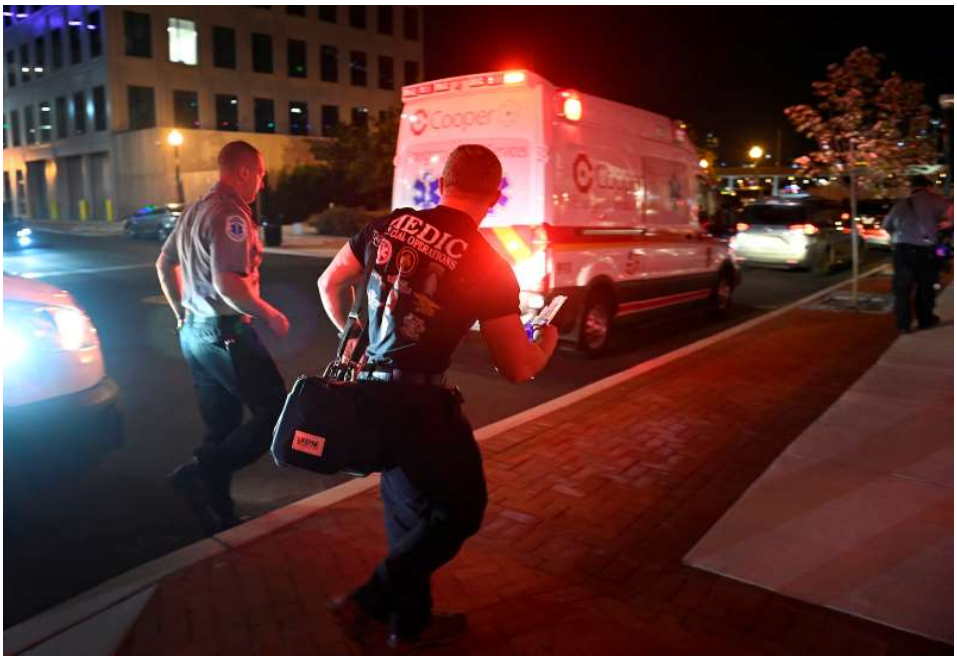
The program leverages training completed throughout the 38W pathway and accepts transfer credits from previous military training and accredited academic institutions. Students must also complete individual coursework in math and composition, submitting those credits to USU to fulfill the degree plan requirements. Enrolled Soldiers have five years to complete all the requirements and earn the Global Community Health BSHS degree from USU.

Faculty Excellence and Accreditation

The faculty at JSOMTC comprises highly qualified professionals, many of whom are licensed providers with board certifications in their respective fields. Instructors complete formal training

through the Special Operations Center of Excellence Faculty Development Course, ensuring they are well-equipped to deliver the specialized content of this unique program. As a satellite campus of the USU, JSOMTC is accredited by the Council on Occupational Education, the Committee on Accreditation of Emergency Medical Services Professionals, and the Middle States Commission on Higher Education.[07,08] This accreditation validates the quality of education and ensures the training meets high standards for both military and civilian healthcare settings.

Bridging Military and Civilian Roles



A Special Operations Combat Medic Course student from the U.S. Army John F. Kennedy Special Warfare Center and School, responds to a call while working alongside emergency medical technicians from Cooper Trauma Center in Camden, New Jersey. (U.S. Army photo by K. Kassens)

The Global Community Health BSHS program serves a dual purpose: preparing SOCAMS for immediate military assignments and enhancing their professional standing with host nation medical personnel, Department of State personnel, and medical non-government organizations. A degree from the USU positions medics for success when collaborating with these entities. This educational initiative addresses a critical need within the Army and the broader community by recruiting exceptional talent from across the Army and providing them with advanced medical training and education, fulfilling military requirements, and enriching the healthcare landscape within Civil Affairs and the special operations community. Graduates emerge with enhanced knowledge, skills, and experience, contributing significantly to their capabilities as healthcare providers, in both military and civilian contexts.

Challenges and Triumphs

This academic journey is rigorous, requiring exceptional time management skills and resilience to balance the demands of medical training with academic coursework. Medics must navigate

the pressures of both environments, often with long hours of study and practice. However, camaraderie among students and support from attentive faculty foster a positive learning environment. Students consistently report overcoming challenges, mastering complex medical concepts, and applying skills in simulated scenarios, resulting in a profound sense of accomplishment and a commitment to lifelong learning and professional development.

Conclusion

The Global Community Health BSHS program at the JSOMTC represents a significant advancement in the training of special operations combat medics. By bridging the gap between military training and higher education, this initiative enhances the capabilities of these elite healthcare providers and prepares them for the diverse challenges they will face in both military operations and civilian healthcare settings. As the demands of military medicine continue to evolve, integrating education into the training of special operations medics will remain paramount. Investing in education ensures these medics are prepared to save lives on the battlefield and to address the broader humanitarian needs of the communities they serve. This commitment to excellence in medical training and higher education demonstrates the Army's dedication to fostering a new generation of skilled and knowledgeable military healthcare providers within Army special operations.

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Originally Published: July 10, 2025

Book Review: Patton's War: An American General's Combat Leadership, Volume 1
Reviewed By Maj. Joseph Bedingfield

George S. Patton, Jr. remains one of the most renowned leaders in American military history. This is the narrative any student of history will find, emblazoned by Patton's own memoirs, the seminal works of Martin Blumenson, Carlo D'Este, and Stanley Hirshon, and autobiographies of Patton's peers and superiors. Historian Kevin Hymel seeks to contextualize this narrative through the lens of another Patton, "the man mentioned in the letters and memoirs of the many soldiers he led into battle." Hymel's research is nothing short of stunning – his search spanned 20 archives and yielded thousands of unpublished memoirs, interviews, and notes from the soldiers who served under Patton. Hymel produces something that is part biography and part analysis, a story that seeks the truth about Patton, which rests somewhere between reality and perception. It is a tale that will satisfy the most passionate World War II and Patton experts, remains accessible to casual readers, and holds valuable lessons for the special operations enterprise.

Notably, Hymel demonstrates exceptional skill in contextualizing the leader through the perspective of his soldiers. For example, Hymel depicts Patton's methods to resuscitate a diminished II Corps in Tunisia as draconian, rooted in aggressive discipline, cursing, and a fair amount of shaming. The accounts of soldiers under his command add gritty detail to just how hard Patton pushed his units to *feel* like soldiers again. The challenges and opportunities of instilling a fighting spirit in a demoralized force will resonate among resistance professionals. Patton's methods focused on the soldiers' morale and their fighting spirit, a key requirement for a resistance force's will to resist. The II Corps emerged 12 days later a lean, fit, determined force that closed Montgomery's open flank in rapid fashion.

Patton's fighting spirit carried II Corps through North Africa and then fueled Seventh Army's victory over the enemy (and Montgomery) at Messina. Hymel paints Patton as a leader whose men fought for him rather than simply against the enemy. The account of Patton's personal contribution in defending a Nazi counterattack at Gela is particularly gripping – the image of a lieutenant general firing a mortar at advancing enemy armor surely stuck with Patton's men. Here, the idea of exploiting time and tempo with distributed forces provides insights for

irregular warfare. Patton leapfrogged his amphibious forces around mountain defensive strongpoints, creating tactical dilemmas that overwhelmed the Nazis. These types of dilemmas, especially those originating from geography outside of prepared defenses, are precisely what the recently updated FM 3-05 outlines in what is expected from ARSOF in large-scale combat operations. Small, specialized teams, approaching from unexpected angles, leapfrogged ahead of the main force to turn and disrupt the enemy, allowing Patton and his Seventh Army to maintain the initiative over a determined foe.

After Sicily, Patton had relatively less contact with his soldiers before losing them when he went to England. Thus, the latter half of *Patton's War* is where Hymel shifts to a historical analysis. The story of Patton's days in England was characterized by uncertainty, fear, and determination. Hymel deftly peers into how Patton viewed his environment and fought to lead American fighting men once again. This narrative crescendos to Hymel's most significant contribution, a well-founded analysis of what Patton may have done differently had he planned the Normandy invasion. Often considered the father of tanks, Patton was also the Army's most combat-tested general and the foremost expert in amphibious landings, airborne assaults, and joint land-air-sea operations. Hymel's examination of this issue will resonate with readers.

Volume 1 concludes on the eve of the activation of Third Army. In a testament to Hymel's skillful writing, the reader will finish both satisfied and wanting. Satisfied in the dexterous weaving of perspective to contextualize and illuminate Patton. Wanting to see how this perspective shapes our understanding of Patton after he and the Third Army were unleashed into France.

Hymel's holistic analysis of Patton offers valuable lessons for leadership, as well as for the art and science of maneuver warfare in large-scale combat operations. Viewed through a special operations forces (SOF) lens, these historical retrospective calls attention to the challenges of the past as they inform our understanding of the future of large-scale combat operations across multiple domains. Such a reflection of history from a non-SOF viewpoint illuminates the perspective of the conventional force and offers insight into how SOF can best enable conventional maneuver.

Author's Note: Maj. Joseph Bedingfield is an active-duty U.S. Army Civil Affairs officer with over 20 years of service. He has served with the 45th Infantry Brigade, the Army National Guard Warrior Training Center, the 92nd Civil Affairs Battalion, and 1st Special Forces Command (Airborne) with various deployments to the Middle East and Europe. Joseph holds three master's degrees (MBA, MMAS, MA), is an Art of War Scholar, and a graduate of the School of Advanced Military Studies. The views, opinions, and analysis expressed do not represent the position of the U.S. Army or the Department of War.

Book Details:

Title: Patton's War: An American General's Combat Leadership, Volume 1, November 1942 – July 1944
Author: Kevin M. Hymel
Number of Pages: 454
Publisher: University of Missouri Press
Date: 2021

Originally Published: July 23, 2025

Book Review: Fighting by Minutes: Time and the Art of War

Reviewed By Chief Warrant Officer 4 William Bryant

Lt. Col. (Ret.) Robert Leonhard's *Fighting by Minutes: Time and the Art of War* offers a compelling exploration of the critical role that time plays in military strategy and operations, making it an essential read for Army Special Operations Forces (ARSOF). The book's core thesis emphasizes that mastery of time—how it is measured, how it is managed, and how it can be applied strategically—is paramount in achieving battlefield success. Leonhard masterfully ties together historical and contemporary examples to demonstrate that the effective use of time can make the difference between defeat and victory. As ARSOF units operate in complex, ambiguous environments where rapid adaptation is key, Leonhard's insights provide invaluable guidance on the integration of time as a warfighting variable.

Fighting by Minutes presents several contemporary themes that are relevant to military professionals at all levels. For one, it emphasizes the importance of sequencing and phasing, showing how minute-by-minute analysis can improve operational effectiveness. The book also explores managing operational tempo, command and control under stress, and the need for adaptability in decision-making. Additionally, it addresses the integration of joint forces and the use of technology and data to support rapid decisions. The book ties these themes together, stressing that success in combat relies on precise timing, clear guidance, and quick, informed decisions at all levels of command.

One of the most compelling themes Leonhard explores is the tempo and timing of military operations within maneuver warfare. He argues that the ability to accelerate or decelerate the tempo of combat can disrupt enemy decision-making and create opportunities for decisive action. Leonhard's theory on "duration, frequency, sequence, and opportunity" is directly applicable to strategic, operational, and tactical-level planning and execution. For ARSOF, this translates to the execution of rapid strikes and deliberate maneuvers to achieve operational surprise and psychological advantage. Additionally, Leonhard's historical analysis of battles, such as Guderian's blitzkrieg, underscores that operational success depends on a commander's use of timing to shape the enemy's perception and response. In the modern operational

environment, this principle demonstrates the value of intelligence, surveillance, and reconnaissance assets in facilitating rapid decision-making cycles, enabling ARSOF to capitalize on fleeting opportunities.

Another takeaway for ARSOF is the relevance of the often-overlooked element of *time* to information warfare. Leonhard advocates for a holistic approach, where timely execution of information operations and rapid decision-making enable success in a four-dimensional battlefield. This approach emphasizes the importance of integrating intelligence and information forces into deliberate planning and execution. ARSOF can also effectively apply this theme to operations in the information environment and the synchronization of information forces. For ARSOF units, this means the integrated use of information forces to maintain temporal dominance. If managed and timed correctly, information can shape perceptions, influence decisions, and create operational tempo advantages in support of the Army and the Joint Force. *Fighting by Minutes* reinforces the idea that information warfare is not secondary but integral to war.

Ultimately, Leonhard's emphasis on the 'art of minutes' serves as a powerful reminder of the strategic importance of time in warfare. For ARSOF, this principle underscores the value of immersive training environments and the development of agile decision-making skills to navigate the uncertainties of modern battlefields. His work not only illuminates the historical and theoretical aspects of time as a warfighting variable but also provides actionable guidance for today's military professionals. *Fighting by Minutes* is an indispensable resource for those seeking to master the military application of time to gain tactical and operational advantages in complex environments.

Author's Note: CW4 William Bryant is a career Regular Army Soldier and Special Forces Officer (MOS 180A) with 24 years of service. He currently serves as the Special Operations Center of Excellence Harding Fellow, and he most recently served as a Division G-5 SAMS Plans Officer for the 1st Special Forces Command (Airborne). CW4 Bryant has previously served as a JRTC Plans Officer, Company Operations Officer, Jedburgh Detachment Commander, SFODA Commander, and Commander of the Regional Support Element - Afghanistan. He has three master's degrees (MA, MS, and MA), an FAA Commercial Pilot Certificate, and he is a graduate of the School of Advanced Military Studies and the Air Command and Staff College. The views, opinions, and analysis expressed do not represent the position of the U.S. Army or the Department of War.

Book Details:

Title: Fighting by Minutes: Time and the Art of War
Author: Robert R. Leonhard
Number of Pages: 268
Publisher: CreateSpace Independent Publishing Platform
Date: August 17, 2017

SPECIAL WARFARE BOOK REVIEW

LIKEWAR: THE WEAPONIZATION OF SOCIAL MEDIA

Originally Published: Aug. 12, 2025

Book Review: LikeWar: The Weaponization of Social Media

Reviewed By Captain Heather R. Cotter

Social media is a double-edged sword. The Army can use it to its advantage in the information environment, and it can also be used equally and effectively by adversaries to cause harm and destruction.

Peter W. Singer and Emerson T. Brooking published *LikeWar: The Weaponization of Social Media* in 2018. This non-fiction book is divided into nine chapters that address the evolution of social media and its use by the United States' (US) strategic competitors as an information warfare (IWAR) tool.

Singer and Brooking summarize the book into five core principles (pp. 21-22)

1. The Internet has left adolescence.
2. The Internet has become a battlefield.
3. The battlefield changes how conflicts are fought.
4. This battle changes what war means.
5. We're all part of this war.

These core principles are woven throughout the book to explain the relevance of social media, its threats, and what to expect in the future. Further, when considering IWAR, these principles shed light on its complexity, how quickly it can evolve, and how large it can become. Soldiers who read this book can better understand the depth of threats released on social media, how to recognize them, and how to leverage that information to adjust course and tactics in the information environment. Soldiers can expect to see malign actors become more sophisticated with their IWAR tactics and for disinformation campaigns to increase over time.

The authors explore how social media platforms have become battlegrounds in modern IWAR, where narratives are crafted, manipulated, and weaponized to influence public perception, disrupt societies, and advance geopolitical agendas. The book details how malicious actors—from governments to non-state actors—use digital tools to spread disinformation, conduct

psychological warfare, and undermine trust, transforming the very fabric of conflict into IWAR. This exemplifies how contemporary warfare extends beyond physical combat, emphasizing the importance of understanding and defending against the strategic use of social media as a powerful tool in the ongoing evolution of IWAR. When considering how quickly technology and disinformation campaigns have evolved in the last 10 years, the question that the Army must ask is what the next 5 to 10 years will look like in the digital battlefield.

For soldiers, it is essential to understand how U.S. strategic competitors utilize social media to control their populace and influence civil-military operations. One example Singer and Brooking touch on is the three types of warfare in China (psychological, legal, and public opinion). They describe how China tends to divert attention when it comes to their weaknesses and amplifies their messaging when it comes to their strengths (p. 184).

One example addresses Russia's interference in foreign elections. When interference with foreign elections occurs (or is suspected), a state's democracy becomes vulnerable, which increases polarization and the possibility of civil disobedience, unrest, and conflict. This is a significant national security concern. The U.S. and North Atlantic Treaty Organization (NATO) allies must establish safeguards against foreign election interference. The intelligence community revealed that Russia interfered with the U.S. general election in 2016, and safeguards need to be in place to prevent Russia, or other malign actors, from interfering with future elections.

Another example the authors discuss centers on Russia's military tactics in the information space. They have repeatedly proven their success in casting doubt on whether Russia committed an action. This doubt puts the U.S. and NATO allies in a reactive and challenging position to develop a response. Russia uses multiple propaganda outlets, including social media, to spread misinformation and disinformation. When misinformation and disinformation spread, it can challenge civil control, the rule of law, civil security, and public trust. This is a significant national security concern that affects not only the U.S. but also NATO allies and other partner nations.

Preparing for and responding to threats requires innovative and strategic approaches. One unique approach the authors touch on is Fort Polk's application of the Social Media Environment and Internet Replication (SMEIR) – an online simulation of a small city that has news outlets, social media, and propaganda that troops must digitally navigate.

Weaponizing social media during peacetime and conflict is becoming increasingly common. Laws and regulations governing the use of social media are complex both domestically and internationally. They are continually evolving. This presents its own set of advantages and disadvantages. The most significant disadvantage is that anyone, both state and non-state actors, can easily use it as a tool of war. This is evident in the Russia-Ukraine conflict. Army special operations forces (ARSOF) should expect an added layer of complexity when social media is exploited by adversaries, whether to negatively influence the civilian population or spread disinformation with the intent of causing additional harm.

The digital battlefield is rapidly evolving, and the Army and ARSOF play a key role in staying in front of the threats. Given what we know today, Army Information Forces have an opportunity to collaborate and forecast what this environment will look like in the future. When it comes to the Army Transformation Initiative, this is an area in which Army Information Forces must be empowered with modernized capabilities and increased capacity to conduct IWAR.

About the Author

Captain Heather R. Cotter is in the U.S. Army Reserve and assigned to the 351st Civil Affairs Command in Mountain View, California. She received a direct commission as a 38G military-government officer in 2022 and holds the 38A AOC due to her successful completion of the Civil Affairs Captains Career Course in 2024. Captain Cotter has a master's degree in international affairs and a second master's degree in criminology. On the civilian side, she is currently employed as a federal contractor at the United States Department of Homeland Security. Captain Cotter has over 20 years of policy and research experience working with state, local, tribal, territorial, campus, and international law enforcement agencies.

Book Details:

Title: Likewar: The Weaponization of Social Media
Authors: P. W. Singer and Emerson T. Brooking
Number of Pages: 416
Publisher: Eamon Dolan/Houghton Mifflin Harcourt
Date: October 2, 2018

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Volume 38, Issue 1, March - September 2025

Professional Bulletin 80-25-1

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Headquarters, Department of the Army • PB 80-25-1

PIN: 222571-000