

OCTOBER-DECEMBER 2020

ARMY SUSTAINMENT

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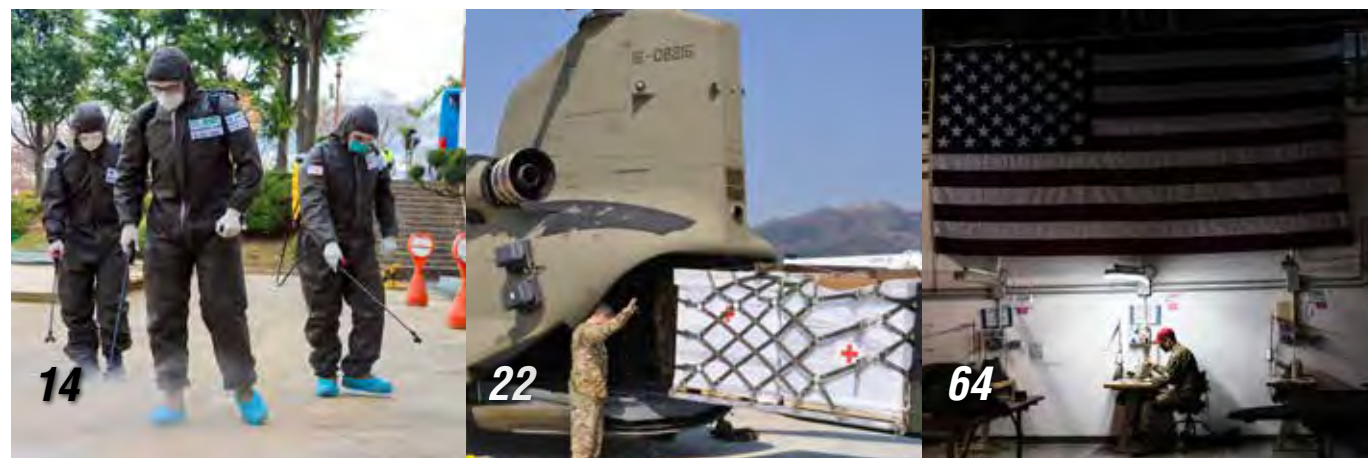
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"Throughout history, sustainment has always been one of America's strategic warfighting advantages over our adversaries. As we look at 21st century warfare in a multi-domain operations environment, sustainment will continue to be one of the most important capabilities in support of large-scale combat operations."

Gen. Ed Daly

Harald Bever, 58th Transportation Battalion Motor Transport Operators Course instructor, teaches truck trailer coupling techniques to Advanced Individual Training Soldiers July 30. The six-week course introduces more than 5,500 Soldiers each year to required skills for the Military Occupational Specialty 88M, including truck docking, tire changes and trailer coupling. (Photo by Brian Hill)

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Army Sustainment is seeking articles on techniques, tactics and procedures; emerging trends; lessons learned; and other experiences.

The editorial staff from *Army Sustainment* is seeking submissions from the community. As with all content submitted to *Army Sustainment*, it should be sustainment focused, provide professional development information, and should not contain any classified or sensitive information.

Submissions should be well-developed narrative articles and can be opinions, techniques, tactics and procedures (TTPs), lessons learned, exploration of new technologies or emerging trends, or other similar content of a valuable nature to fellow sustainers.

General public affairs style coverage or content on units, exercises, initiatives and events that do not otherwise hold additional professional development

value are typically not as strong as those submissions that offer real, actionable sustainment information.

While the editorial staff here at *Army Sustainment* do conduct our own review and editorial process and have authority to approve content submitted to us for public release, we recommend at least some basic professional coordination between the submitting author and their organization's public affairs or public information office, especially for U.S. personnel working in NATO or other multinational organizations.

Army Sustainment chooses new topics for each bulletin and accepts contributions from the sustainment field. Check out our social media, including our page on Facebook, to learn about upcoming topics.

Find more information: www.alu.army.mil/alog/submissions.html

Mastering Sustainment Warfighting Function Capabilities



■ By Gen. Ed Daly

I am personally and professionally humbled and honored to have assumed the role of the Army's senior sustainer. I am absolutely proud to lead our great materiel enterprise and serve shoulder-to-shoulder with our tremendous Soldiers and Department of the Army Civilians. Together, we enable combat operations by providing sustainment warfighting function capabilities from the strategic support area (SSA) to the tactical points of contact throughout the world.

We will continue to focus on the Army senior leader priorities of readiness, modernization, and reform, with a people-first philosophy. My challenge to the sustainment community is to remain focused on achieving effects

in support of Army Command and Army Service Component Command requirements.

Army Doctrine Publication 4-0, Sustainment, provides the foundation for the sustainment warfighting functions and principles of sustainment. We must continue to plan, synchronize, and deliver sustainment warfighting function capabilities. This will ensure freedom of action, extend operational reach, and prolong endurance in support of combatant command requirements. We must balance readiness and modernization initiatives through a deliberate campaign plan that ensures readiness for the current fight, builds to Way Point 2028, and sets conditions for Aim Point 2035 in support of the National Defense Strategy. Success will be measured on our ability to continue to deliver, at echelon, strategic and tactical readiness effects to the Army and Joint Force.

In parallel, with regard to Way Point 2028 and Aim Point 2035, we will continue our efforts to develop new concepts and capabilities within the doctrine, organization, training, materiel, leadership and education, personnel, and facilities framework. The center of gravity unequivocally remains training, leader development, and talent management, as people are our most critical resource.

Throughout history, sustainment has always been one of America's strategic warfighting advantages over our adversaries. As we look at 21st century warfare in a multi-domain operations environment, sustainment will continue to be one of the most important capabilities in support of large-scale combat operations. As such, the SSA will be the hub of the sustainment warfighting function. Within this battlefield framework, the SSA is where military power is generated, projected worldwide, and sustained during the fight.

The SSA extends from the 26 arsenals, depots, and ammunition plants of the Army's organic industrial base (OIB), where equipment is maintained and manufactured, to our installations, posts, camps, and stations worldwide. It encompasses strategic air and seaports of embarkation/debarkation in the U.S. and abroad. From the artisans in our OIB facilities to the housing and child care workers at our installations, from professionals at our Logistics Readiness Centers to our field support brigades and battalions nested with tactical combat units, we are directly and decidedly linked to Soldiers on the front lines through the SSA. The Army and joint enterprise organizations within the SSA must be synchronized and linked with operational units

across seven critical lines of effort (LOE): Soldier, Civilian and Family readiness; installation readiness; industrial base readiness; munitions readiness; strategic power projection readiness; supply availability and equipment readiness; and logistics information. The sustainment warfighting function capabilities should drive our actions to deliver effects across each LOE.

Sustainment leaders need to categorically understand SSA

capabilities and enthusiastically embrace their roles and responsibilities. They must take personal ownership to teach, coach, and mentor their subordinate leaders and Soldiers to ensure everyone is working in unison toward achieving readiness effects. Developing the full potential of the SSA is an ongoing effort. You—the Army sustainment enterprise—are the line men and women of football, so to speak; the unsung heroes who will see it through.

Thanks for all you do each and every day in support of our Army's mission. People First—Winning Matters—Army Strong!

Gen. Ed Daly serves as the commanding general of the U.S. Army Materiel Command. He served three years as the deputy commanding general of AMC in his previous assignment. He managed the day-to-day operations of the Army's logistics enterprise, and also served as the senior commander of Redstone Arsenal, Alabama. He served as the commanding general of Army Sustainment Command at Rock Island Arsenal, Illinois, and as AMC's deputy chief of staff, overseeing the roles and functions of the headquarters staff.



ANTICIPATION

First Among Equals



■ By Lt. Gen. Duane A. Gamble

Integration, anticipation, responsiveness, simplicity, economy, survivability, continuity, and improvisation: the eight Principles of Sustainment. These foundational tenets guide sustainment professionals at all echelons. They are the framework for running command and staff elements. When artfully applied, they allow us to maintain freedom of action, enable strategic and operational reach, and provide our Army the endurance required for operations across the spectrum of conflict. Eight total, but one stands above all: anticipation.

For over half a year, the world has been pitted against the unseen enemy of COVID-19. As I contemplate the Army's response to

COVID-19, I also consider how our Army and our nation responded to the last time the strategic support area (SSA) was contested: the 1918 influenza pandemic that killed my great-grandfather.

While all eight principles are critical and meant to work in concert, I believe anticipation is the first among equals. Just as anticipation is decisive to sustaining a tactical formation in the tactical support area, it is the key to sustaining training, distribution, and deployment in the SSA during contested operations. As I discussed in recent editions, our ability to operate with freedom of action in the SSA is no longer guaranteed. Gone are the days when the U.S. could rely on the geographic protection the Atlantic and Pacific oceans provided. We must anticipate adversarial attempts to hamstring our readiness, distribution, and deployment operations and act in anticipatory ways to eliminate vulnerabilities in order to leverage our Army's greatest strength: the ability to project and sustain forces across strategic distances in support of Combatant Commanders' requirements. Anticipation is critical at all echelons, from tactical to strategic. In the context of the COVID-19 pandemic, anticipatory action postured the Army to

provide endurance and freedom of action in SSA operations. Only anticipation increases the number of options available to commanders and provides the time necessary to develop courses of action, and then to decide, rehearse, and execute.

Our nation, the international community, and our Army are months into fighting the COVID-19 pandemic. Our Army closely watched the outbreak in China and in January set up the first planning team to prepare for the arrival of the virus at our bases and on our shores. The sustainment and medical logistics teams here in the Pentagon, in addition to our enterprise and industry partners, anticipated Army requirements and postured our Army for COVID-19. Since then, we have consistently and continuously kept the pipeline of critical resources open, resulting in a sustained and ready Army. OSD and the Joint Staff tasked us to support other Services who did not anticipate or posture as well as our Army. While still reacting to contact, we created a Medical Logistics (MEDLOG) Division within the G-4 to deliver running command and staff estimates for the PPE and testing supplies, to shape and execute Army MEDLOG policy, and to unify the Planning, Programming,

Budgeting, and Execution for MEDLOG in support of COVID-19. These changes are a strong start but we must now further our understanding of the operating environment, as well as the impacts of a pandemic on our global and integrated supply chain while we continue to anticipate future requirements.

The influenza pandemic of 1918 that struck our nation came in multiple waves. Foresight and the ability of leaders to make adjustments in procedures and policy, pre-position required medical equipment at key locations and adapt minimized risk of successive outbreaks. As we prepare for potential successive COVID-19 outbreaks, the logistics enterprise continues to anticipate requirements for the SSA, preparing the Army to fight and win in this contested environment. Early in the COVID fight, we anticipated future requirements and established provisional contingency stocks of critical Class VIII Personal Protective Equipment (PPE) to safeguard our medical professionals, our Soldiers, Civilians and their loved ones at home. We partnered with The Office of the Surgeon General and the Joint Staff to right-size Pandemic Response Contingency Stocks. We redesigned unit deployment packages and Army Prepositioned Stock (APS) sets for medical units with additional PPE to enhance readiness. We also ordered, and have now prepared, contingency stocks if we have to fight large

scale ground combat operations in a pandemic environment. This sounds utterly logical, but no one except the Army was thinking about this unstated and unforecasted requirement in March 2020. Army logisticians must continue to anticipate emerging requirements and optimize our support against any known or unknown mission set.

As sustainment professionals, we must continually search for and identify ways to rapidly project combat power and sustain our forces across the globe. This includes modernizing our deployment infrastructure; continuing to re-evaluate APS sets positioning and ensuring munitions are postured to effectively meet the Combatant Commanders' operational requirements. History has shown we must be capable of executing this under extremely difficult conditions. The U.S. Army maintained the capability to mobilize millions of Soldiers, pieces of equipment, supplies and munitions to Europe during the 1918 pandemic and today we continue to anticipate requirements that will enable us to sustain operations in a COVID-19 environment. To that end, we've developed an Army common operating picture for Class VIII PPE and COVID testing supplies that includes both Medical Treatment Facilities (MTFs) and the operational force's field hospitals and aid stations. Working closely with our industry and strategic partners, we are also creating redundancy in the Class VIII supply chain to mitigate against

the global competition for PPE, disrupted distribution capacity and overwhelmed manufacturing. Our ability to continually evaluate our environment and anticipate future requirements will be the key to the Army's continued success whether at tactical echelons or in the SSA, particularly when the freedom of action we as an Army have always enjoyed here in the United States is contested.

Finally, I look back at how the Army operated during World War I when the environment was contested. In New Jersey, Camp Merritt was established as a staging base to mobilize Soldiers preparing to embark on troop transport ships bound for Europe. Nearly 500,000 Soldiers deployed overseas from the camp during the height of the influenza pandemic as part of the American Expeditionary Forces. In 1924, The Camp Merritt Memorial Monument was dedicated to honor those Soldiers that passed through the camp, as well as the 578 Soldiers who died at the camp from the influenza of 1918. The monument remains as a solemn reminder that we must continually strive to anticipate requirements to support operations in the strategic support area in a contested environment.

Lt. Gen. Duane A. Gamble, Deputy Chief of Staff, Headquarters, Department of the Army, G-4, oversees policies and procedures used by U.S. Army Logisticians. He has masters of science degrees from Florida Institute of Technology, and Industrial College of the Armed Forces.

Class VIII on the Battlefield

Enabling a Responsive Supply Chain



■ By Maj. Gen. Rodney Fogg and
Col. Sydney Smith

The Army's response to the COVID-19 pandemic has demonstrated a very real shortfall in the Army's ability to track medical supply visibility and readiness. The lack of end-to-end capability for Class VIII (medical) supply requisition, materiel management, distribution, and medical maintenance poses an unmitigated risk to the Army's ability to meet the demand of large-scale combat operations (LSCO). Additionally, our inability to see, anticipate, and understand Class VIII requirements across formations masks critical vulnerabilities, choke points, and shortfalls that cause us to be reactive rather than responsive. We must address these

challenges to enable future success during LSCO and in future disaster response events in our nation.

Over the past few decades, medical logistics (MEDLOG) has operated from a just-in-time demand planning model in which medical professionals had access to the national catalog of medical supplies and equipment at all levels. This model worked extremely well in counterinsurgency operations that had semi-permissive environments with mature operating bases, steady operational tempo, and established contracts that enabled customized Soldier treatment. The demands of LSCO with a near-peer competitor in a multi-domain environment will fundamentally change the way we conduct decisive action tasks. This change will also test the Army's ability to synchronize and integrate sustainment to keep pace with corps and division formations. While we have previously been able to rely on a top-down enterprise approach, the depth, breadth, lethality, and tempo of the battlefield will necessitate empowering commanders at echelon to synchronize all warfighting capabilities to position themselves to win against our adversaries. Embracing the changes required for LSCO will also improve the Army's ability to respond to our humanitarian and homeland defense missions.

What is changing? Synchronization and integration are key aspects of Army doctrine and concepts, to include the Army's Field Manual 3-0, Operations; Army Doctrine Publication 4-0, Sustainment; and U.S. Army Training and Doctrine Command Pamphlet 525-3-1, The U.S. Army Multi-Domain Operations 2028 concept. The Army must move from stove-piped functional commodity management systems to ones that integrate, manage, and share critical information from the tactical unit to the industrial base and from the medical professional to the logistics personnel charged with distributing the critical supplies on the battlefield. This shift requires a holistic approach to supply chain management which includes developing readiness drivers for tactical medical equipment sets, implementing demand-planning factors, tracking and maintaining Class VIII in the standard sustainment resource management system, Global Combat Support System-Army (GCSS-Army). As some medical supplies have unique characteristics and special handling requirements, institutions will need to train personnel with the agility to manage specific medical supplies while also being able to harness the materiel and distribution management capabilities that reside in sustainment

systems. This approach will give strategic planners, combat medics, and leaders a common operating picture and a shared ability to anticipate, track, and deliver critical medical supplies to enable the Army Health System to save lives, support lethality, and prevent fewer deaths on the battlefield.

In late 2019, Army senior leaders made the decision to move tactical medical logistics management, including Class VIII and medical maintenance management, into GCSS-Army. This will be implemented through a phased approach. This will prepare the medical logistics community to deliver a health service capability that is responsive, capable, and efficient in meeting patient needs in LSCO. Moving to GCSS-Army will set the conditions to conduct medical supply chain management, medical asset management, medical readiness, and medical property accountability within the operating force environment.

While the integration of Class VIII into GCSS-Army may simply seem like a way to improve the 'business' of medical logistics, in reality, this move will enable outsized battlefield effects. It will provide a single system to enable leaders on the battlefield to anticipate, allocate, and synchronize the flow of resources in support of commanders' requirements thereby allowing leaders to quickly make better decisions. It will simplify information requirements and co-ordination lines to bring a clear and rapid understanding of

what is required, when it is required, where it is required, and why it is required. It sets the stage for future improvements under the enterprise umbrella to keep combatant commanders and subordinate leaders at every echelon set for mission success. Ultimately, integration of MEDLOG into GCSS-Army ensures Class VIII is effectively delivered on the battlefield and enables providers to deliver life saving care to Soldiers in combat.

As we modernize the Army, we must deliver an integrated MEDLOG supply chain from fort to foxhole that enables freedom of action and endurance. It must be responsive to a broad spectrum of missions, from strategic to tactical and humanitarian to LSCO. Integrating MEDLOG into GCSS-Army is the first step to modernizing our supply chain.

Maj. Gen. Rodney Fogg, commanding general of Combined Arms Support Command, is a graduate of Quartermaster Basic and Advanced Officer Leadership Courses, Command and General Staff College, and the Army War College. He has a master's degree in logistics management from Florida Institute of Technology and a master's degree in strategic studies from the U.S. Army War College.

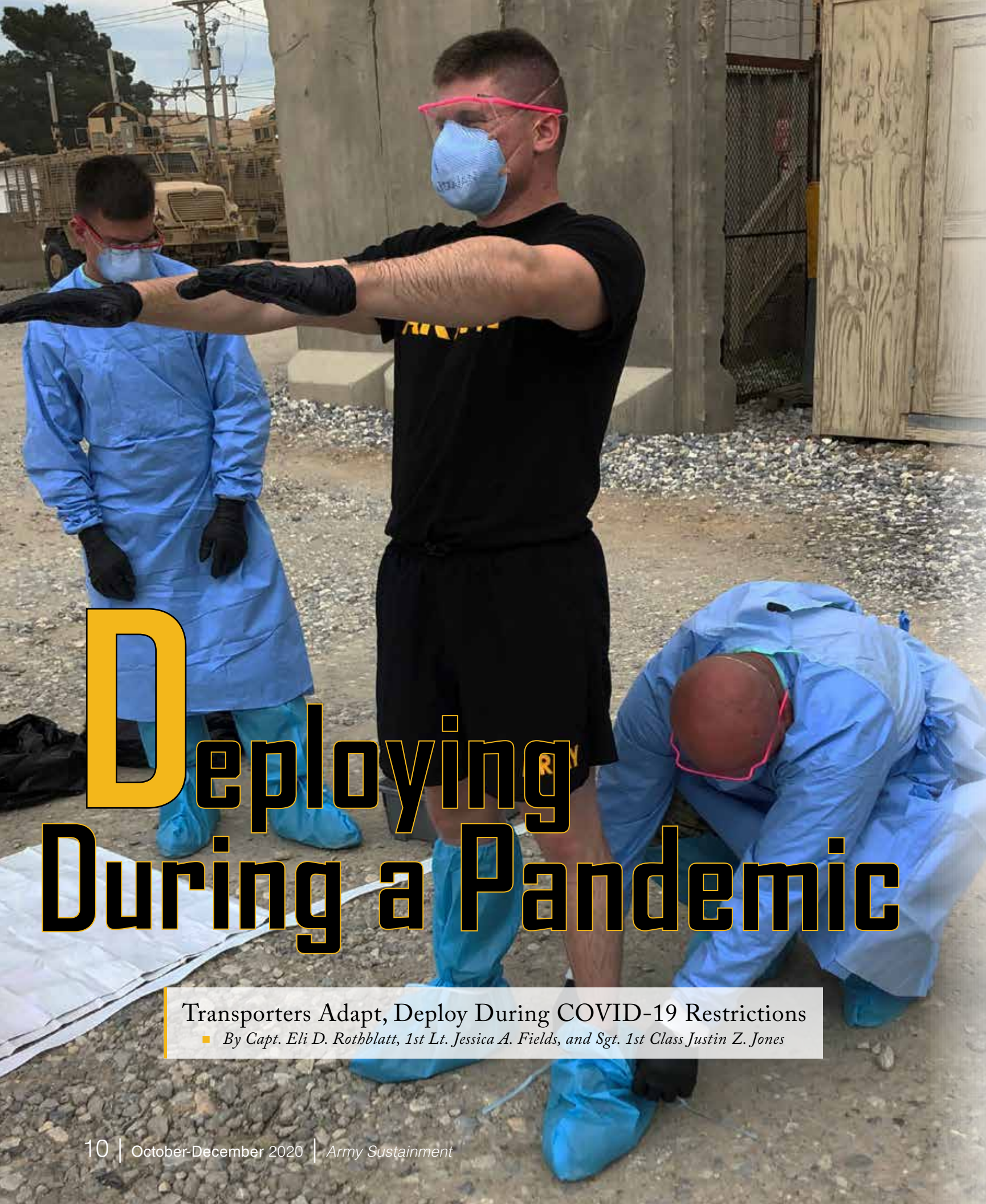
Col. Sydney Smith currently serves as director of Fielded Forces Integration Directorate, U.S. Army Combined Arms Support Command. Smith is a graduate of Quartermaster Officer Basic Course, Combined Logistics Officer Advanced Course, Command and General Staff College, School for Advanced Military Studies, and Senior Service College. She holds a Master in Military Arts and Science from the Command and General Staff College and a Master in Resource Strategy from The Eisenhower School (formerly the Industrial College of the Armed Forces).

GCSS-Army provides:

- Visibility of critical items within a medical equipment set or in sets, kits, outfits, and tools
- Strategic utilization of Office of the Surgeon General's prepositioned stock in emergencies
- Visibility of medical supply support unit assets, critical unit shortages, and/or theater of operations
- Visibility into capability of performing a critical operation
- Class VIII (medical) materiel nested with distribution channels

Software releases will support:

- Procurement
- Auditability of controlled substances
- Creation of new medical user roles
- Improved maintenance functionality (work orders link with purchase request)
- Shelf-life management
- Component on-hand management
- In-transit visibility
- Two-way automated quality control messaging capability
- Component level on-hand and maintenance significant reporting



Deploying During a Pandemic

Transporters Adapt, Deploy During COVID-19 Restrictions

■ By Capt. Eli D. Rothblatt, 1st Lt. Jessica A. Fields, and Sgt. 1st Class Justin Z. Jones

The 606th Movement Control Team (MCT) deployed from its home station strategic support area during the COVID-19 pandemic. The unit incorporated lessons learned from the brigade chemical team into the MCT's systems and processes and successfully mitigated risks of COVID-19 infection.

Strategic Support Area Movement Control Operations Pre-COVID-19

MCTs are inherently tied to strategic support areas. On Gen. Gustave "Gus" Perna's fort-to-port, port-to-port, and port-to-foxhole vision of strategic readiness, transportation movement coordinators (88N) are tied into this process at every step. 88Ns generate transportation movement release requests for ground lines of communication movements, air movement requests for fixed- and rotor-wing transport on air lines of communication and provide in-transit visibility (ITV) with a variety of systems to enable warfighters to see themselves at all times. So of course, MCTs have a strong advantage in deploying our own organic equipment from our installations to our combat sustainment destinations.

606th MCT is aligned with the 1st Armored Division (1AD) and has a unique home station mission to provide strategic movement support for worldwide contingency missions, scheduled rotations, and training events to both 1AD) and Fort Bliss, Texas, tenant units. Notably,

1AD is the only division with three armored brigade combat teams (ABCTs) and only one home-station MCT. Pre-COVID-19 restrictions, 606th MCT completed a year of support in a variety of strategic support areas. 606th MCT deployed and redeployed two ABCTs and one combat aviation brigade (CAB) with teams at Port of San Diego, California; Port of Corpus Christi, Texas; Port of Beaumont, Texas; and the rail yard for Marine Corps Logistics Base Barstow in California. In addition, we provided movement control support on Fort Bliss with teams at the Arrival/Departure Airfield Control Group (A/DACG), the rail yard, and at freight haul locations.

At all locations and from our detachment operations cell in our company operations facility (COF), 606th MCT provided ITV using our modified table of equipment (MTOE) systems. We utilized organic ITV equipment, including interrogators using Transportation Coordinators'-Automated Information for Movements System Version II enabled by our Very Small Aperture Terminal and Portable Deployment Kits connected to the Iridium Satellite Network.

606th MCT used our automated ITV equipment to create military shipping labels, radio frequency identification device tags, and to generate daily dashboards for supported units to see the updated movement status of their equipment. Further, at each location we conducted centralized receiving and

shipping point operations, scanned equipment in with handheld devices, and maintained analog tracking boards as a back up to our automated systems. Incorporating movement control best practices, we supported units with movement preparation area (MPA) and deployment ready reaction field operations in order to ensure no equipment would be frustrated prior to rail load at Fort Bliss Rail Yard.

Overall, 606th MCT moved over 1,000 pieces of armored equipment between nodes during our pre-deployment year of home station movement control operations. It was a very busy year, which our Soldiers loved!

Tactical Training Incorporating CBRN Defense Pre-COVID-19

At every opportunity, 606th MCT conducted home station missions in full kit with weapons, optics, and night vision devices drawn from our secure Arms and Sensitive Items rooms. We also used our tactical vehicles and encrypted communications. This tactical readiness approach carried over to training our defensive mission essential task list tasks. 606th MCT Soldiers qualified with our weapons during night fire and while wearing our chemical, biological, radiological, and nuclear (CBRN) defense protective equipment. Our tactical training culminated with live fire gunnery of our convoy protection platforms.

Although an MCT doesn't have a CBRN specialist (74D) as part of its MTOE, we fortunately had an

In order to ensure the team entering contaminated areas didn't themselves get infected, the brigade chemical team developed a tailored personal protective equipment kits for COVID-19 defense.

entire chemical battalion colocated in our sustainment brigade. We coordinated in-depth training with 22nd Chemical Battalion on all of our CBRN defense equipment, including our M50 Protective Masks, Radioactivity Detection, Identification and Computation (RADIAC), and Joint Chemical Agent Detector (JCAD) equipment. 606th MCT developed confidence through training in our ability to proficiently use our JCADs to detect chemical agents and increase our Mission Oriented Protective Posture (MOPP) while conducting our tactical and movement control tasks. In addition we knew we could use our RADIACs to detect and react appropriately to incidents of high radiation discovered in our area of operations. Thus we felt extremely well prepared in March 2020, only months from deployment to the U.S. Central Command area of responsibility, when the Army began implementing COVID-19 restrictions.

Deploying An MCT Under COVID-19 Restrictions Using Lessons From Afghanistan

The Army emphasizes its ability to conduct missions while in a high CBRN defensive posture, and yet our first notable biological defensive requirement in recent times did not engage any of our CBRN equipment. We found ourselves with real world COVID-19 based friction affecting our ability to complete deployment of our equipment and personnel, and yet our RADIACs and JCADs were, of course, not part of the solution.

Fortunately, our brigade chemical officer and NCO team, although deployed forward in Afghanistan at the time, provided mentorship on best practices for executing our strategic support area deployment requirements while adhering to US Army COVID-19 policies and best practices to protect our Soldiers' welfare and readiness.

While deployed in Afghanistan, the 1AD Sustainment Brigade headquarters' chemical team's first plan of action was to create a training plan. When someone on base tested positive for COVID-19, the chemical team would deploy an 8-10 Soldier team to go in and disinfect the rooms. The purpose of this team was to disinfect rooms in order to mitigate the spread of COVID-19. These teams would disinfect areas a person who tested positive for COVID-19 came in contact with.

In order to ensure the team entering contaminated areas didn't themselves get infected, the brigade chemical team developed a tailored personal protective equipment (PPE) kit for COVID-19 defense. The brigade chemical team coordinated with brigade medics and ordered N95 masks, boots, gowns, eye protection, and all of the necessary disinfection products. Every product the team used was in accordance with the guidance from the Centers for Disease Control and Prevention. For soft items such as linen and clothes, the disinfection team used an alcohol solution. For dressers, walls, and other hard items the team used CaviCide spray. In the

process, the brigade chemical team learned a lot about medical PPE and disinfection processes and use and the sustainment of medical supplies (Class VIII).

Soldiers who entered the contaminated environment to disinfect it were known as the "dirty" team. When these Soldiers exited the contaminated environment they immediately entered a decontamination area. The purpose of this was to ensure all contaminated PPE was properly disposed of. The brigade chemical team had a dedicated command post to track location of personnel who went into the contaminated area to ensure safety.

Overall, the brigade decontamination team was able to teach 40 Soldiers decontamination best practices, including 12 coalition Soldiers from the Republic of Georgia. Additionally, the brigade decontamination team completed over 15 missions in just three months. The practices the team taught are still being used today in theater.

The sustainment brigade chemical team conveyed these COVID-19 protective measures and best practices to 606th MCT as the unit prepared to deploy. able to complete RFI draw, Joint Service Lightweight Integrated Suit Technology distribution, load out, Joint Inspection of containers, and other pre-deployment tasks while adhering to our brigade chemical team's best practices. 606th MCT brought in a section of four Soldiers at a time for pre-deployment tasks. Our Soldiers

completed their tasks wearing face masks, maintaining 6 feet separation, and cleaning and disinfecting work spaces before and after each use. Throughout our deployment process the support of battalion and brigade staff, our own rear detachment, and the unit we replaced made the deployment process much smoother. For example, 606th MCT was able to get our required general officer level proof of quarantine memo signed and printed for us during our two weeks of quarantine thanks to aggressive staff support at higher echelons.

We maintained COVID-19 preventive measures at every stage of our deployment movement including from our report from quarantine to our COF for weapons draw, to our transport to the Fort Bliss A/DACG, to our arrival in theater. Today in theater, we are performing a highly dynamic movement control mission set while of course still maintaining these COVID-19 precautions.

Lessons Learned From COVID-19 Strategic Support Area Movement Control Operations

A lesson learned from deploying from Fort Bliss, our strategic support area is while the forms of CBRN defense we traditionally train with are important for the variety of CBRN threats, we must also be prepared to implement more mundane biological threat defense techniques. If we're stocking M50 protective masks, it may be wise to have pre-stocked and COVID-19 effective face masks for each Soldier too, as well as a 90-day supply of

hand sanitizer and disinfectant cleaning supplies. The unit Standard Operating Procedures can include an annex for operations under social distancing, which is essentially minimal manning to conduct a mission. Units should have familiarity with contact tracing and a plan for quarantining a portion of their element. In Combat Training Center rotations, we've frequently had to perform our tasks in MOPP level 4 for several hours or participate in a CBRN mass casualty event. However, we don't recall the proven to be likely scenario of having to set up a quarantine space for 20% of our Soldiers or to conduct contact tracing. 606th MCT, like the rest of our sustainment community and Army, proved up to the task of conducting strategic support area missions under COVID-19 restrictions. However, COVID-19 is providing valuable lessons for us to further improve strategic readiness.

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*Featured Photo
Sgt. Nicholas Noonan, of the 1st Armored Division's Resolute Support Sustainment Brigade decontamination team, conducts decontamination procedures training April 20, 2020 in order to maintain proficiency in disinfecting and decontaminating the gowns the team wears when they enter into a COVID-19 positive room. (U.S. Army Photo)*

A photograph of three soldiers in full protective suits, including hoods, masks, and gloves, walking along a path and spraying a disinfectant solution. The soldier in the center is wearing a suit with "US ARMY Disinfecting Team" and Korean text on the chest. The soldier on the right is wearing a blue shoe cover. The background shows trees and a building.

Korean Epidemic Epicenter

Sustaining, Protecting the Force Amid COVID-19

■ By Brig. Gen. Mark T. Simerly and Maj. Antwon Person

Two U.S. Army Soldiers and a South Korean soldier spray a COVID-19 infected area with a solution of disinfectant in Daegu, Republic of Korea, March 13. (Photo by Hayden Hallman)

Throughout history, the U.S. military has played a vital role in combating the spread of infectious diseases both on American soil and abroad. In January, South Korea announced its first cases of COVID-19. Within mere weeks, the infection rate skyrocketed, turning South Korea into the second epicenter of the global pandemic.

On Feb. 20, the Korean Center for Disease Control reported 104 confirmed cases of the illness, with 57 in the city of Daegu. Due to the cluster of four Army installations in and around Daegu, the virus was at our doorsteps. Overnight, the military community in Daegu became the bellwether for the Army's response to the virus. As South Korea's number of confirmed cases continued to increase, the 11,000 troops, dependents, and civilians in Daegu became the first large U.S. population to confront COVID-19. As a precaution, military leadership initiated a mass data analysis to identify service members and their families who had either traveled to or through mainland China.

The U.S. Forces Korea (USFK) and Eighth Army COVID-19 community-of-interest is divided into six distinct areas, approximately one-third of the size of Texas. 19th Expeditionary Sustainment Command's (ESC) area of responsibility is Area IV, which includes the majority of the southern portion of South Korea. As the regional one-star headquarters, Eighth Army directed 19th ESC to retain command authority for organic units and tactical control for all other Eighth Army subordinate units in Area IV. The implementation of this command authority adjustment enabled the synchronization of movement, messaging, and streamlined communication for nonorganic brigades, battalions, and companies whose higher headquarters resided outside of Area IV. As an operational framework, 19th ESC developed a counter-COVID-19 campaign plan with three lines of effort: protect the force, respond to threats, and sustain readiness. The mission was to prevent the spread of COVID-19 and remain postured to conduct sustainment operations.

Protect the Force

Throughout the COVID-19 response, 19th ESC was

laser-focused on protecting the force and community by implementing enhanced prevention and hygiene measures. The command was able to rapidly implement stringent health protection measures to seize control and prevent the spread of the virus in the following areas:

- **Task Organization:** With the Eighth Army command authority directive, having command authority of other Eighth Army units in Area IV was a challenge. However, to maintain control of Area IV's overall health protection posture and track positive COVID-19 cases, this authority was vital. It allowed for the quick dissemination of information and area-wide compliance with the health protection condition (HPCON) guidance. Additionally, the authority gave the command a foothold across the southern portion of the Korean peninsula permitting the issuance of guidance that assisted in suppressing the spread of the virus.
- **Command and Control:** To effectively command and control subordinate units, on Feb. 19, less than 24 hours after the declaration of HPCON Bravo, 19th ESC transformed their secure tactical command post into an environment more conducive to providing support to the local community. It was clear that the driving force for effective operations was the free-flowing exchange of information between U.S. forces and the local Republic of Korea (ROK) government. The reorganized command post enhanced the command's ability to openly communicate with local government officials and conduct secure classified informal updates, as necessary.
- **Surgeon Fusion Cell and Health Protection Council:** On Feb. 19, 19th ESC expanded its existing surgeon cell to include public health, medical operations, patient tracking, and Korean Augmentation to the U.S. Army. Previously, the surgeon cell consisted only of the surgeon, medical noncommissioned officer-in-charge, and a medical operations officer. The expanded fusion cell enabled a preventive medicine and public health capability for patient tracking, and operation structures for medical and health protection products and dissemination. Additionally, it established a reporting structure from all 19th ESC tactical

"I assessed one of the keys to our success is that we operationalized our approach to combating COVID-19 from the very beginning. This is not an administrative task, this is not a medical task, and it's not a routine event, but it's an operation."

—Gen. Robert B. Abrams, commander, U.S. Forces-Korea

control units for patients under investigation, commander's critical information requirements, and tracking of quarantined individuals. Furthermore, 19th ESC established a health protection council to increase the overall readiness and resiliency of the team through the identification of threats and the application of resources to promote the health, safety, and wellness of all the Soldiers. The council was built on previously established readiness and resiliency working groups.

Respond to Threats

To combat the spread of COVID-19, 19th ESC implemented emerging capability and aggressive information-sharing between the Department of Defense (DoD), U.S. military, and the ROK military and community.

- **HPCON Measures:** The initial implementation of HPCON measures across the peninsula exposed a lack of understanding. HPCON public health guidance from USFK was initially issued in a table format where restrictions and changes were highlighted to show applicability. The change to the infographic slides for each HPCON made it easier to articulate the standards for each area. With the declaration of HPCON Bravo peninsula-wide and the implementation of HPCON Charlie in U.S. Army Garrison Daegu on Feb. 20, Eighth Army issued an operation order that required the approval of the first general officer in the chain of command to travel to and from Daegu.
- **Public Health Emergency Directives:** The protection of the force remains our number one priority. We continually monitor and assess the conditions of COVID-19 in South Korea and its presence near USFK installations. On March 25, a public health emergency was declared by the USFK

commander. "To ensure I possess the necessary authorities needed to enforce compliance and protect the force, I have declared a public health emergency for all U.S. commands and military installations in the Republic of Korea." This directive required mandatory quarantine and access requirements for USFK installations. It also granted the 19th ESC commander additional authorities to establish protection measures for the entire workforce, including civilian personnel in Area IV.

- **Enhanced Sanitation Protocols:** 19th ESC implemented an enhanced sanitation policy to mitigate risks of COVID-19 transmission from contaminated surfaces and aerosolized particles (large droplets and microdroplets). The use of masks or cloth face coverings in all confined workspaces was made mandatory. Hand sanitizer and handwashing stations were placed at all major entrances to facilities with signs emphasizing their use. Commonly used surfaces were sprayed with disinfectant and logged for tracking purposes, doors were propped open to avoid the use of doorknobs at latrines, and posters showing washing of hands with soap and water for at least 20 seconds were prominently displayed throughout buildings. Disposable gloves were made available at gas stations and other areas where multiple individuals would touch various objects. All work areas were properly ventilated every hour to clear out droplets and microdroplets. Preventive Medicine (PM) teams reviewed air filtration systems and vacuum cleaners to ensure the presence of HVAC filters. Chairs and workspaces were reconfigured to ensure proper social distancing and use of non absorbent materials, such as vinyl rather than cloth, were implemented.

PM teams from 154th PM detachment were mobilized to assess the above protocols and provide feedback on improvement measures. These steps were taken in addition to the health protection council working group and executive review committee established to ensure the implementation of force health protection protocols.

Sustaining Readiness

To maintain the command's "Fight Tonight" posture, 19th ESC's focus remained on unit readiness. The employment of the materiel readiness common operating picture, movement planning board, and messaging was vital to keep the force moving forward.

Readiness Common Operating Picture. To gain situational awareness and synchronize resources, 19th ESC developed a readiness common operating picture that was used to identify commodity shortfalls with classes of supply, such as Class I (rations) and Class VIII (medical). The readiness common operating picture became part of Eighth Army Distribution Working Group, displaying a 72-hour snapshot.

Movement Planning. 19th ESC also set up a board to manage all movements in and out of Daegu. The application of the movement board enhanced the overall management of personnel movements, thereby limiting any unnecessary exposure during the COVID-19 pandemic.

Class VIII Procurement. Early on, 19th ESC worked with Eighth Army and U.S. Army Medical Materiel Center-Korea (USAMMC-K) to determine the Class VIII requirement and set a priority of support. USAMMC-K continued to use long standing processes and procedures in the execution of ground common user land transportation contracts for the movement of Class VIII materiel.

The transportation methods were soon expanded to include coordination of weekly aerial resupply sustainment missions and tactical unit enhancement when needed. USAMMC-K also developed an online in-transit visibility portal displaying details on the quantities and nomenclature of critical medical materiel,

providing visibility of operational resupply movements to the end user. The consistency of transportation availability through the increased operational requirements and lapse of a special measures agreement directly contributed to the timely and effective delivery of the majority of Class VIII materiel.

Training. Lost training opportunities due to COVID-19 hinder the unit's ability to execute collective training tasks. Now, several months in, units must operate in a restrictive training environment that is limited to only squad-level training events. Moreover, COVID-19 forced the postponement of the scheduled Combined Command Post Training (CCPT) 20-1. This caused a rapid reevaluation of the planned training objectives. The objectives for CCPT 20-1 were retooled to extract training value from running 24-hour command post operations. By aligning the retooled training objectives to COVID-19 response execution, 19th ESC salvaged the lost training value from the training events postponement.

Through the first 90 days of COVID-19 operations, 19th ESC significantly reduced the spread of COVID-19 to military personnel and their families despite the thousands of cases spreading throughout the country. As of May 19, the total cases in South Korea reached 11,078 with 13 new confirmed cases within the 24 hours prior to writing this article. Amidst the 6,871 confirmed cases in Daegu, the virus only infected 8 USFK personnel, including one service member. The response of 19th ESC set conditions to prevent the spread of COVID-19 and to protect the members of the DoD community. The lessons learned during this operation may provide a framework for epidemic response doctrine.

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Fueling Efficiency

Modular Fuel System, Components Provide Value to Commanders

■ By Warrant Officer 1 Johnny E. Frambo II

Petroleum operations in the U.S. Army require the utmost, detail-focused planning and proper coordination to ensure the success of any mission set. The following is an analysis of one of the newer pieces of petroleum equipment added to force sustainment, the Modular Fuel System (MFS). This document provides detailed comparison and contrast to potential mission sets for future Army operations, as well as the types of units which have been fielded this system and the functionality it provides within a given unit. Ultimately, the MFS, by design, has the potential to provide an immediate and instrumental increase in tactical capability. However, the flaw lies not with the system itself rather with how the system has been fielded to units across the Army. With large-scale combat operations (LSCO) lingering on the horizon, it is imperative that force sustainment units are issued the entire system to increase petroleum capacity on the battlefield while maintaining relative agility within the large-scale battle space.

The MFS is a piece of petroleum equipment that enables fuel distribution and storage capability

without using collapsible fabric fuel tanks or requiring engineer support. It was implemented to reduce the amount of fuel inherently lost using the collapsible fabric tanks and increase bulk storage efficiency. This increase in bulk storage efficiency is directly affected by the relative permanence associated with the collapsible tanks. Once the collapsible tanks have been filled, they become a permanent structure until they are defueled into another storage device and the fabric tanks are destroyed. Unlike using the collapsible fabric tanks, the MFS system is used in conjunction with a M978 Heavy Expanded Mobility Tactical Truck (HEMTT), M1120 HEMTT Load Handling System (LHS), M1074 Palletized Load System (PLS), and M1076 PLS Trailer. These vehicles allow their MFS to be emplaced and actioned in the most austere locations without the need for prior service by engineers or material handling equipment. The MFS consists of the following components: a Pump Rack Module (PRM) and 14 Tank Rack Modules (TRM). According to the Petroleum Planning and Operations Smart Book generated by the U.S. Army Petroleum Center (APC), the entire MFS is not currently issued to any unit in the



The Modular Fuel System provides the ability to rapidly establish a fuel distribution and storage capability without a bag farm or engineer support. The system can be used at any location without the availability of construction and material handling equipment. (Photo By Capt. Chris Lancia)

Army. However, most units with petroleum equipment have been issued the TRM.

PRM and TRM

The PRM was designed to facilitate ease of bulk fuel transfer in a complex battlefield while being able to hastily mobilize these very same assets, if needed. The PRM is loaded with a 600 gallon-per-minute pump, integrated filtration systems with necessary hoses, couplings, and nozzles to establish eight retail distribution points or four bulk refuel points.

The TRM was designed to facilitate retail fuel operations by increasing a unit’s capability to store, transport, and ultimately distribute the petroleum product. The TRM can be used in conjunction with

a M978 HEMTT for line haul distribution, as it effectively increases the storage capacity of a M978 from 2,500 gallons of fuel to 5,000 gallons of fuel. As a stand-alone system, the TRM consists of an electric continuous pump, filtration and water separator system, and a meter to provide clean and dry fuel and retail accountability.

Discrepancies

The major discrepancy, as it relates to the MFS, is not related to design of the equipment but in how units interact with it. As previously stated, not one unit has been issued the complete MFS, but many have been issued a TRM, a component of the MFS. By the description of the TRM, it is designed to be used for bulk storage and retail capability. The electric pump

built into the TRM does not provide the capacity on its own to establish stable bulk retail operations, but it does in conjunction with the PRM. Operators are undertrained on the TRM and its capabilities and command teams tend to be misinformed on the proper implementation of the equipment. It is a line of thinking that a TRM should be able to be dropped in a location and it will satisfy a given unit's fuel requirements, due to the onboard pump. This is inaccurate. This misinformation leads to planning factors that are unrealistic and likely improbable. Commands often have trouble differentiating the particulars of bulk fuel distribution and retail fuel distribution. The lack of education associated with the terms causes ill advised planning and thus perpetuates the misuse of the TRM. As noted in the description, the TRM has a retail capability. Experience shows, however, the planning factor which is most often associated with implementing the usage of the TRM is derived from using it as a bulk distribution asset. So with better information regarding how to properly utilize the TRM, it will better serve units and continue to be a force multiplier for units with the TRM at their disposal.

Large-Scale Combat Operations

The increasing concern of LSCO is an issue we have shifted our focus to as we navigate away from counter-insurgency operations. With petroleum being one of the major concerns as we look to best prepare ourselves for this potential battlefield, how our product is moved in this environment is extremely paramount. Flexibility will be important as command teams employ systems such as the MFS, particularly as joint force commanders are looking to seize the initiative and

consolidate gains on terrain which has been moved through. Use of the MFS will allow for rapid maneuverability and support of the forward line of troops as the battlefield progresses. This line of thought is directly in line with the sustainment warfighting function as it enables sustainers to provide support and services to ensure freedom of action, extend operational reach, and prolong endurance.

As it relates to previous fuel distribution, the MFS does not offer any negative reasons why it is not the progression needed to support LSCO. There is no long-term setup required to effectively employ this system. However, with units being fielded an individual component of the MFS, rather

than the system as a whole, there are no units currently capable of effectively employing this force multiplier.

The MFS is designed as a force multiplier. It has the potential to greatly increase the effectiveness of sustainment units with less time spent in an area for refueling operations as well as expand the mobility and the areas to which refueling can take place. While there are not any units currently fielding the MFS in its entirety, owning this equipment allows commanders to plan more effectively for operations. This planning process, along with proper education to command teams of equipment capabilities and employment procedures, will exponentially increase the effectiveness of any unit supported with the MFS.

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The MFS is a piece of petroleum equipment that enables fuel distribution and storage capability without using collapsible fabric fuel tanks or requiring engineer support.



Soldiers from E Company, 2nd Battalion, 3rd Aviation Regiment train to utilize the Tank Rack Module of the Modular Fuel System to provide additional bulk fuel at a Forward Arming and Refueling Point on Fort Stewart, Ga. (Photo By Capt. Chris Lancia)

MEDICAL READINESS

COVID-19 Response Shaping the Future of Medical Logistics

■ By Brig. Gen. Michael B. Lalor

When the newly-organized Army Medical Logistics Command (AMLC) was activated last September, my focus was clear: prepare the organization to provide medical materiel and data from the strategic support area (SSA) to deliver effects at the tactical point of need in support of the operational force. Knowing we would soon operate in a contested multi-domain environment, we needed to rapidly improve our ability and capacity to deliver those effects.

Organizational change is never easy, especially the kind we were undertaking to systemically reform operational medical logistics. We expected long days, bumpy roads, and obstacles along the way. What none of us ever truly anticipated was a global pandemic. Less than six months into the command's development, we found ourselves at the center of the Army's support to the whole-of-government response to the novel coronavirus. AMLC continued throughout the summer to provide medical materiel to support ongoing and future operations across multiple global combatant commands.

COVID-19 is not the battle we forecasted but it provides us with a unique opportunity to test our ability to deliver effects from the SSA in a contested, real-world environment.

Developing the Army's Home for Medical Logistics Since October 2018, we have witnessed a period of significant change as Army Medicine realigned delivery of fixed-site healthcare under the Defense Health Agency (DHA). This included the restructuring of U.S. Army Medical Research and Materiel Command (USAMRMC) and the creation of AMLC.

Over a nine-month span, the Army reorganized and inactivated USAMRMC. Headquarters, Department of the Army, Execution Order 013-19 called for the immediate transfer of USAMRMC to U.S. Army Materiel Command (AMC). A subsequent operations order 19-121 directed that USAMRMC "reorganizes to ensure compliance with Army future force modernization" and "develops a detailed plan to transfer medical research and development/program management to Army Futures Command." By June 1, 2019, MRMC was redesignated

A Soldier from the U.S. Army Medical Materiel Center-Korea's 563rd Medical Logistics Company loads Class VIII medical supplies onto a CH-47 helicopter in Korea, March 24. (Photo by Shawn Hardiek)

to U.S. Army Medical Research and Development Command (MRDC) under Army Futures Command (AFC).

To support operational medical logistics and forces in the field, the order also called for the creation of AMLC, a direct-report unit to AMC, which was activated on Sept. 17, 2019. The new AMLC was formed as a headquarters over three medical logistics subcommands: U.S. Army Medical Materiel Agency, U.S. Army Medical Materiel Center-Korea (USAMMC-K), and U.S. Army Medical Materiel Center-Europe (USAMMC-E).

The creation of AMLC was part of several larger Army Medicine reform efforts to ensure medical readiness, support wartime requirements, and enhance the quality of care for Soldiers and their Families. Additionally, the Army sought to centralize medical logistics with the other sustainment functions inherent within AMC.

AMLC generates medical materiel readiness for the Army. Partnered with multiple stakeholders, AMLC ensures medical forces have the specialized equipment and materiel needed to continue the best care for Soldiers, on and off the battlefield. AMLC sustains health services support for the operational Army units and joint forces, in support of large-scale combat operations (LCSO), through integrated medical materiel distribution, forward-positioned stocks, centralized medical materiel management, and data management.

Sustaining Strategic Support Area Operations

Today, AMLC serves as the Army’s primary medical logistics and sustainment command. It provides strategic oversight of medical materiel within the Army prepositioned stocks (APS), forward-positioned stocks, operational projects, and medical maintenance operations located across four continents. AMLC supports AMC across four lines of effort within the SSA construct:

- Industrial Base Readiness:
- Provide sustainment-level repair, calibration, and recapitalization of medical equipment and medical special purpose test, measurement, and diagnostic

- equipment (TMDE-SP)
- Deploy medical maintenance experts to operational environments to provide forward repair and maintenance support

Strategic Power Projection:

- Manage and sustain medical APS, forward-positioned stocks, and other medical materiel readiness programs
- Provide forward-operating optical fabrication, including standard issue and frame-of-choice glasses, inserts for gas masks and eye protection, and flight goggles for pilots
- Coordinate medical foreign military sales (FMS) in collaboration with U.S. Department of State to strengthen our allied partners and ensure interoperability

Supply Availability and Equipment Readiness:

- Oversee the distribution of medical materiel (e.g., supplies, equipment, and assemblages) across the Army and joint medical forces
- Distribute vaccines and provide cold chain management training
- Support medical materiel quality control and hazard recall messaging
- Provide theater-level medical logistics support to Army and joint medical forces

Data Analytics and Logistics Information Readiness:

- Facilitate the Army’s transition from the legacy medical logistics enterprise resource planning system (ERP) into Global Combat Support System-Army (GCSS-Army), to be completed no later than the end of fiscal year (FY) 2022.
- Manage and update the medical materiel catalog
- Provide technical business support and record system training

Fighting COVID-19

The first confirmed U.S. case of the highly-contagious novel coronavirus was Jan. 21. By March 11, the World Health Organization (WHO) declared a global pandemic. For many Americans, this was the start of the battle. At AMLC, the fight began weeks earlier.



A biomedical equipment specialist assigned to the U.S. Army Medical Materiel Agency, a direct reporting unit to the Army Medical Logistics Command, conducts depot-level maintenance at Tobyhanna Army Depot, Pennsylvania, on a ventilator as the Army supports COVID-19 response efforts worldwide. (U.S. Army photo)

Theater Support Outside the Continental U.S.

In early January, before COVID-19 began to receive widespread U.S. media attention, AMLC medical logisticians in Korea had their sights set on emerging health trends. A novel virus was spreading quickly in Asia and the medical logisticians started to plan for the worst-case scenario, which included having to equip 66,000 people—including U.S. Forces Korea (USFK) and Eighth Army—with personal protective equipment (PPE) and sustain the theater. USAMMC-K executed early mass procurement of needed medical supplies and PPE, including surgical masks, gloves and gowns, sending the demand signal to the industrial base and Defense Logistics Agency-Troop Support (DLA-TS). USAMMC-K also requested and received authorization to access a portion of wartime stocks.

Early anticipatory work to set the theater was a key component of our ability to stay ahead of the requirements.

Had this team waited until COVID-19 cases started appearing in South Korea in late January, they would have been competing with many others for the same limited supply of medical materiel.

Much like USFK has done for the Army, USAMMC-K led the way in this fight. They used solid forecasting and honed instincts to ensure the right amount of the right materiel was in the pipeline and synced with DLA-TS to support the USFK commander’s operational requirements. In parallel, our team in Europe started the necessary movement to set the theater for U.S. European Command (USEUCOM), U.S. Central Command (USCENTCOM), and U.S. Africa Command (USAFRICOM).

Both USAMMC-K and USAMMC-E serve as theater lead agents for medical materiel (TLAMMs). Designated by the joint staff, these units create efficiency and serve



Soldiers from the 551st Medical Company (Logistics) and the 627th Hospital Center unload tri-walls of medical supplies shipped by the Army Medical Logistics Command (AMLC) as they arrive at Joint Base Lewis McChord, Washington, in support of COVID-19 relief efforts. (U.S. Army photo)

as the theater distribution center for medical logistics during peacetime or upon transition to hostilities in their respective theaters. USAMMC-K serves as the TLAMM for Korea and USFK. USAMMC-E serves as the TLAMM for USEUCOM, USCENTCOM, and USAFRICOM. In the continental U.S., AMLC does not serve as the TLAMM. That role is designated to U.S. Army Medical Command. Regardless of designation, AMLC's mission is to project materiel and capability to Army forces and the joint force, as required, and its growing capacity was on full display as the COVID-19 fight reached the homeland.

Medical Materiel Distribution. As cases began to increase within the U.S., AMLC was called to provide defense support of civil authorities (DSCA) through U.S. Army North (USARNORTH) as the joint forces land component command for U.S. Northern Command (USNORTHCOM).

By March, AMLC teams distributed medical supplies for three Army hospital centers supporting New York and Washington states, two of the states initially hit hardest by COVID-19. This mission included support

to Army medical professionals from 531st Hospital Center, from Fort Campbell, Kentucky, 627th Hospital, from Fort Carson, Colorado, and 9th Hospital Center, from Fort Hood, Texas. AMLC's unit deployment packages (UDPs) included potency and dated items tailored to each medical team's needs. These included everything from syringes and suction tubes to blood products and oxygen, intended to bolster these units' capabilities to deliver health care support where it was needed most.

We also worked closely with U.S. Forces Command (FORSCOM), theater sustainment commands (TSCs), and expeditionary sustainment commands (ESCs) to identify medical materiel and equipment gaps and ways to reduce shortages. Partnering with the materiel developers at U.S. Army Medical Materiel Development Activity, AMLC teams dug into depot-level inventories and warehouses to pull medical devices in most critical need. AMLC biomedical equipment specialists at the medical maintenance operations divisions (MMODs) worked quickly to assess the devices and prioritize calibration and repair of ventilators, oxygen generators, suction apparatus, and patient monitors.

In Europe, USAMMC-E leadership created a PPE materiel warehouse to support their three combatant commands' missions. This effort increased the speed and efficiency of distributing PPE. Through June, this project was responsible for the storage and distribution of over 1 million pounds of CL VIII (medical) materiel in response to the COVID-19 pandemic.

In Korea, teams continued to support the global response effort to COVID-19 on multiple fronts. Through June, USAMMC-K issued over \$450,000 worth of PPE and over 130,000 specimen collection kits to support USFK and USAMMC-E's efforts, in support of USEUCOM, USCENTCOM, and USAFRICOM.

Leveraging Army Prepositioned Stocks. Meanwhile, AMLC continued to provide worldwide support to the pandemic response. In Europe, AMLC issued medical materiel out of Army prepositioned stocks—including ventilators, patient monitors and hospital beds—for use at Landstuhl Regional Medical Center, Germany. We also issued field hospital sets to several locations overseas, including the USCENTCOM area of operations, to augment Army capacity across the globe. AMLC prepositioned ventilators and ventilator resupply kits at various locations stateside for USNORTHCOM.

Integration Across the Army Sustainment Enterprise. Medical logistics is a lean specialty. In order to accomplish the mission, especially during COVID-19, Army Medicine had to integrate and synchronize efforts with others. This is where the creation of AMLC and its nesting as a major subordinate command under AMC really paid off.

For example, at USAMMC-E, our team shifted to 24/7 operations, increased customer support by more than 75% from January through June, and processed more than 1 million pounds of PPE and COVID-19 test kits. To meet surge capability requirements and reduce customer wait time and improve operations, we rapidly integrated additional Soldiers from multiple units, led by 21st TSC.

Inside AMC, integration and synchronization with the other direct reporting units and teammates helped AMLC mitigate shortfalls and gaps with storage, manpower, and

distribution capability while providing unique capabilities in support of the medical maintenance mission. Our close partnership with Army Sustainment Command provided mission-essential manpower to rapidly issue medical equipment and supplies from medical APS worldwide, especially in areas where we could not physically send our medical logistics support teams (MLSTs) due to travel limitations.

Collaborating with U.S. Army Tank-automotive and Armaments Command (TACOM), at Sierra Army Depot, in Herlong, California, provided essential mission support to store and distribute COVID-19 test kits and PPE. TACOM and Rock Island Arsenal's Joint Manufacturing and Technology Center employed their additive manufacturing capability to print three different parts—totaling over 150 pieces—for ventilators that AMLC maintainers used to refurbish and rebuild ventilators at our MMODs.

Communications-Electronics Command (CECOM) produced power supplies for those same ventilators, extending the supply chain. Surface Deployment and Distribution Command (SDDC) enabled us to posture critical ventilators for shipment, and supported the repositioning of UDPs in support of FORSCOM hospitals. Logistics Data Analysis Center helped organize and integrate our data into a common operating picture for senior Army logisticians and Army senior leaders. Overall, this was an incredible team effort that highlighted the vision of creating AMLC and aligning it within AMC.

Collaboration with Joint Partners and Key Stakeholders. The Army rarely deploys alone, so coordination among all military services and interoperability with allied partners is essential. AMLC routinely coordinates directly with:

- DLA-TS for management of strategic medical materiel acquisition, distribution, and readiness programs
- AFC and USAMRDC to integrate logistics life-cycle management functions with program management functions and activities for development and delivery of sustainable materiel solutions

- DHA in its execution of defense medical logistics programs and shared services, such as materiel standardization and data management
- Defense Medical Logistics Enterprise and U.S. Army Medical Command /Office of the Surgeon General for collaborative forums and initiatives to promote materiel standardization and joint interoperability
- Army service component commands and combatant commands for development and execution of MEDLOG portion of health service support plans
- FORSCOM and its subordinate commands for medical force modernization and readiness, and installation-level medical supply, maintenance, and optical fabrication

During the fight against COVID-19, these established relationships became invaluable. Multiple resources, from hand sanitizer to test kits to PPE, quickly became in short supply. AMLC participated in joint priority allocation boards and collaborated with stakeholders to orchestrate the deliberate, needs-based delivery of medical materiel.

Rebuilding Capacity. Sustaining any long fight takes forward-thinking strategy and sustaining the fight against COVID-19 is no different. To date, AMLC has established enhanced processes to rapidly replenish potency and dated items, as well as expendables such as tubing on ventilators. A key part of this sustainment effort includes contracts with vendors and DLA-TS that gives us procurement speed and flexibility.

We’ve also had to think creatively about how we field and sustain items. Traditionally, we are a travel team. Our model called for us to physically go to a unit or deployment location, projecting our MLSTs to inventory and issue items. In a contested environment, COVID-19 travel restrictions forced us to change our playbook.

We hosted virtual training seminars online and produced maintenance tip sheets for many medical devices to boil down the most critical details for

troubleshooting these items. We’re sharing these products directly with medical maintainers and units around the globe. Our website also serves as a repository for the tip sheets and dozens of frequently asked questions to support the medical maintenance community.

We implemented ‘telemaintenance’ virtually connecting maintainers with units in the field to assist with troubleshooting and repairing complicated medical devices. While it’s only in its early stages, we believe this effort will have an incredible impact on our ability to extend our resources and maximize the expertise inherent in the MMODs.

AMLC: The Way Ahead

As we move forward in our development as a command, we are applying key reforms in five specific areas to address challenges, close gaps, and exploit opportunities.

Visibility and Integration. As a commodity, Class VIII (medical) supply has long struggled with end-to-end visibility and integration into GCSS-Army, the Army’s primary enterprise resource planning system. COVID-19 did not identify this issue; it further highlighted the gap and the inability to see ourselves. The good news is that we are attacking the problem and beginning to integrate Class VIII (medical) supply into GCSS-Army, starting with our Army prepositioned stocks, so it can be managed like other commodities and provide better visibility for unit leadership. With the leadership and partnership of U.S. Army Combined Arms Support Command (CASCOM) and CECOM, we will soon integrate Class VIII (medical) supply in GCSS-Army from the tactical level back to the industrial base. This will start in 4th quarter, FY 20, with completion and full integration by the end of FY 22.

Additionally, AMLC is also partnered with CASCOM and U.S. Army Medical Center of Excellence (MEDCoE) to expand the integration of medical logistics into the sustainment enterprise, ranging across the battlefield from the SSA to the close area. Work and planning is now underway, with implementation of

force design updates starting no later than FY 23.

Distribution. AMLC is responsible for operational medical logistics; however, medical logistics at stateside military treatment facilities (MTFs) remains under DHA. Nevertheless, we must work together in order to avoid procurement fratricide and inefficiency. We are currently developing a new and revised concept of support that better integrates Class VIII (medical) distribution across the entire enterprise and ensures DHA MTFs remain an alternate source of supply for deploying units that need to access on-hand materiel from these locations.

Planning and Responsiveness. AMLC is improving its demand planning capability by hiring demand planners, determining readiness drivers, and leveraging DLA’s medical contingency requirements workflow to provide more accurate information to DLA’s medical contingency file, which identifies joint, time-phased, “go-to-war” medical materiel requirements. Our overall purpose is to send an early, accurate demand signal to the industrial base so it can surge, when necessary, to meet the need.

AMLC is working with DLA-TS and prioritizing the Army’s medical materiel requirements, sending the right signals to the industrial base to tailor the stocks with depth starting at the strategic level. This will eventually improve synergy of stocks and depth across the operating force.

Management and Sustainment. The future of AMLC will see it develop into a life cycle management command (LCMC) with item managers, logistics assistance representatives, national-level purchasing division, and expert senior command representatives that are able to provide direct support at the corps and installation levels. Working collaboratively with program managers and materiel developers at USAMRDC, we must improve Class VIII (medical) materiel management and sustainment plans from inception through divestment or modernization.

Capability and Capacity. Perhaps the biggest lesson learned from COVID-19 is in the way it has challenged our previously held assumptions and thought processes. Traditionally, Army medical logistics planned medical materiel requirements for combat casualties and injuries or

illnesses most common for service members in a battlefield environment. Understandably, the type of medical materiel required for trauma (surgical and blood) is very different from that which is required for a pan-demic (ventilators and oxygen generating equipment). The burn rate, or speed at which the items are consumed, is also different. In a combat care environment, only the health care providers wear PPE. In a pandemic, the consumption rate for PPE is much higher because non-providers require it.

COVID-19 has taught us to rethink some of the planning factors for replenishment sets. We have been working closely with clinicians and pharmacists to develop new project sets to support rapid, flexible replenishment of single-use parts, such as tubing and valves, on medical devices such as ventilators. This change in thinking will not only help us better support the current pandemic response, but also shape how we sustain future combat operations.

Final Thoughts

While AMLC’s transformation was not started by COVID-19, what we have learned from supporting this fight has greatly shaped our reform efforts. Through every challenge, we have sought to find opportunities that generate readiness faster and more efficiently. In many ways, the COVID-19 support mission has provided AMLC with valuable insight of what will be required to meet the size and exponential medical materiel demand in a multi-domain environment, including LSCO.

The contested environment AMLC operates in today is a preview of the future. A huge sports fan, I often distill the challenges of the day to our commanders and staff worldwide by explaining, “there are no lay-ups.” Everything is contested on the battlefield. The road to deliver the right effects at the right time is often bumpy and we must be aggressive—but we are on our way.

Brig. Gen. Michael B. Lalor serves as the commander of Army Medical Logistics Command, a worldwide organization headquartered at Fort Detrick, Maryland. Lalor has more than 25 years of service that include a variety of operational experiences, troop leadership, and staff assignments. He completed his undergraduate studies at University of Scranton. He has earned master’s degrees from Louisiana State University; the School of Advanced Military Studies, Command and General Staff College; and the U.S. Army War College.

Sustaining Brigade Logistics

Concepts of Support, SOPs Critical to Long-Term Sustainment of BCTs

■ By Lt. Col. Gabe Pryor and Maj. Jason Bost

“Sustainment doctrine is heavy on the ‘what’ and ‘who,’ but light on the ‘how’ for both maneuver and sustainment commanders. This lack of detail leaves too much room for misunderstanding between commanders, especially for sustainment operations inside brigade combat teams where tactical operations and sustainment tasks must be closely coordinated. We must think about the sustainment fight in decisive action as the synchronization of the distribution loops of materiel. The loops described in sustainment doctrine are from the CSSB to the BSB, the BSB to the FSC and the FSC to the Company Trains. This is one too many and in my 30+ years of experience, three loops has been nearly impossible to synchronize. Therefore, we must reduce the number of loops and be more prescriptive as to how we will fight sustainment.”

Maj. Gen. Patrick Matlock, Commanding General, 1st Armored Division

Brigades at National Training Center, Fort Irwin, California routinely face mission failure because they do not establish a clear and consistent approach to executing critical sustainment tasks. Brigade logistics is hard; this should incentivize leaders to develop standard operating procedures (SOPs) that are clear and concepts of support (COS) that are precise. Leaders at echelon must understand the orders and instructions that flow from the COS.

Units must strictly adhere to SOPs that dictate personnel, equipment, and task requirements for sustainment nodes. By embracing a higher-level of precision in sustainment planning and preparation, brigades increase their chances of mission success during training and combat.

This article provides scaffolding for the development of the COS and unit SOPs, anchored on three pillars. First, brigades should standardize and resource sustainment nodes at

echelon, including the company trains, combat trains command post (CTCP), field trains command post (FTCP), and brigade support area (BSA). Second, brigades should establish clear standards for logistic packages (LOGPAC), accounting for methods of distribution under mission, and operational variables such as mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (METT-TC) and political, military, economic, social, information, infrastructure, physical

environment, and time. Finally, brigades should establish clear SOPs for casualty evacuation (CASEVAC) and medical evacuation (MEDEVAC). Ultimately, this article argues that brigades could minimize friction and avoid failure by adopting a more specific and standardized approach to sustainment efforts.

Company Trains Purpose and Organization

The most immediate and reactive sustainment echelon to the changing battlefield environment is the company trains. The primary purpose of the company trains is to evacuate casualties and non-mission capable (NMC) equipment from the company area to battalion (BN) collection points and to request and distribute company supplies. Company trains are typically one distinguishable terrain feature, approximately one to four kilometers, behind the forward line of troops (FLOT). The company trains perform five key functions, the priorities of

which change based on mission:

- Submit a logistics status (LOGSTAT) request to resupply (via radio, digital, or paper) to the CTCP, with Class III (petroleum, oil, and lubricants) and Class V (ammunition) supply prioritized
- Facilitate the repair and return of combat systems by the field maintenance team (FMT) to the maneuver companies
- Conduct resupply via logistics release point (LRP) operations
- Provide evacuation of casualties to Role I Medical Treatment Facility (MTF)
- Perform evacuation of NMC equipment to the unit maintenance collection point (UMCP) in the CTCP

To highlight the second function, company trains require the FMT to repair and return NMC combat systems to the fight or to evacuate vehicles that are not repairable in four

hours to the CTCP. FMT mission requirements typically dictate the following items from the modified table of organization and equipment (MTOE):

- One M88 recovery vehicle
- A contact truck with VRC-89/90/92F radio and Joint Capabilities Release (JCR) system
- Forward Repair System (FRS) mounted on a Palletized Loading System (PLS) with a M1076 Palletized Load System (PLS) Trailer and Container Roll-in/Out Platforms (CROPs)
- M1083 Medium Tactical Vehicle with storage shelter to carry select bench stock and smaller shop stock listing (SSL) parts to enable rapid forward repair of combat systems to the maneuver company

The SSL should be tailored to support the equipment density in the maneuver

company (analysis is available from United States Army Materiel Systems Analysis Activity Logistics Analysis Division to stock most frequently ordered items). Ultimately, the forward positioning and proper resourcing of FMTs allow the company trains to rapidly fix forward at the tactical point of need, or evacuate both casualties and NMC equipment from the company area to BN collection points.

CTCP Purpose and Organization—Regenerate Combat Power

The primary purpose of the CTCP is to regenerate combat power and return it to the unit’s fighting formations. CTCPs are positioned according to the mission variables as defined by METT-TC and must be small and agile; they are typically collocated with the UMCP. All operations require the CTCP to

coordinate sustainment in support of tactical operations by compiling the BN LOGSTAT and transmitting it to the brigade S4 and BSB support operations officer (SPO) to request resupply. During the fight, the CTCP regenerates combat power through the repair of damaged equipment and the treatment of casualties at the Role I BN Aid Station (BAS). The CTCP coordinates the retrograde of equipment to the brigade support area and evacuation of casualties to the Role II MTF Brigade Support Medical Company (BSMC), as necessary.

The key personnel located at the CTCP are the Headquarters and Headquarters Company (HHC) commander, HHC first sergeant, HHC executive officer (XO) and the S1 (administration) and S4 (logistics). Additionally, approximately 20% of the elements of the FSC distribution

and maintenance platoons, the BAS, and the unit ministry team are located at the CTCP. Locating the battalion maintenance technician (BMT), and either the maintenance control officer (MCO) or maintenance control sergeant (MCS), at the CTCP is critical to maximize the experience on site to fix NMC equipment as far forward as possible and rapidly return fully mission-capable equipment to the fight. Additionally, some of the battalion Equipment Record Parts Specialists (ERPS) clerks at the CTCP with access to Global Combat Support System-Army (GCSS-Army) provide the ability to open faults on NMC equipment, order parts, and maintain the SSL. Maintaining the larger portion of bench stock and SSL forward at the CTCP (in mobile storage) allows the BMT and FMTs quick access to fix forward at the tactical point of need. CTCP mission requirements typically

dictate the following MTOE:

- Two M88 Recovery Vehicles and one M984A4 Recovery Truck (Wrecker)
- Two High Mobility Multi-purpose Wheeled Vehicle (HMMWV) Shop Equipment Maintenance Contact Trucks
- A N / V R C - 8 9 / 9 0 / 9 2 F Vehicular Radio Set and Joint Capabilities Requirements (JCR) Tactical Operations Center (TOC) Kit
- One Forward Repair System (FRS) mounted on a PLS
- One Standard Automotive Tool Set (SATS) trailer
- One Load Handling System (LHS) with M1076 PLS Trailer and CROPs
- One M978 Heavy Expanded Mobility Tactical Truck (HEMTT) A4 fuel servicing truck (tanker) with Tank Rack Module (TRM)

Additionally, the maneuver BN Very Small Aperture Terminal (VSAT) and a Combat Service Support Automated Information System Interface must be at the CTCP. Having the VSAT at the CTCP provides the capability of ordering and receiving a Class IX (repair parts) part on the next LOGPAC to fix a NMC pacer. The VSAT also provides a communications platform for maintenance processes, attendance of brigade maintenance meetings via Defense Conference Services, and a means for the BN S1 to conduct daily reporting. The temptation to position the VSAT at the BSA based on past SOPs is persistent, but delays the ordering of high priority parts until 5988 equipment

maintenance and inspection worksheets from the FLOT arrive at the BSA, with the FSC returning from LOGPAC. Having the VSAT forward allows ordering as fast, and as often, as the company/troop/batteries push 5988s to the CTCP. Numerous BN battle rhythm events can be conducted in the UMCP to induce face-to-face decision making, including the BN maintenance meeting and logistics synchronization meeting (LOGSYNC).

FTCP Purpose and Organization—Receive, Configure, and Deliver Supplies

The purpose of the FTCP is to receive, configure, and deliver all classes of supply to the companies via LOGPAC. FTCPs are located at the BSA to allow forward support companies to request, receive, organize, and configure loads for distribution. Those functions are completed by the FSC and occur simultaneously as the BSA receives all classes of supply and personnel replacements for the brigade from the CSSB. FTCPs located outside of the BSA create another loop in the supply chain which often results in mission failure when the Alpha Distribution Company (ADC) distribution platoon assets are not present at the BSA when the CSSB resupply arrives.

Key personnel located at the FTCP are the FSC commander, FSC first sergeant, FSC XO, and representatives from the BN S1 and S4. Additional forces located at the FTCP are elements of the FSC distribution and maintenance platoons

(approximately 80%), the field feeding team (FFT), and the company supply sergeant. Positioning either the MCO or MCS—whomever is not at the CTCP—at the FTCP is critical to maximizing their experience to ensure the repair or evacuation of NMC equipment. The MCO or MCS also provides supervision of BN ERPS clerks that open faults, order parts, and organize supplies into company configured loads to push forward with the FSC distribution platoons’ twice daily LOGPAC. The FTCP also maintains the larger and less mobile portion of the SSL (major assemblies) to facilitate the FSCs configuration of those parts for transport and push forward on LOGPAC by the FSC to the company LRP. FTCP mission requirements typically dictate the following equipment requirements:

- One M984A4 Recovery Truck (Wrecker)
- One HMMWV Contact Shop Equipment Maintenance Truck
- AN/VRC-89/90/92F Vehicular Radio Set and JCR TOCs
- Eight Load Handling System (LHS) with M1076 PLS trailers
- Five M978 HEMTTA4 fuel trucks
- Five TRMs
- One LHS-compatible Water Tank Rack
- One Unit Water Pod System (Camel II)
- One Containerized Kitchen
- One Multi-Temperature Refrigerated Container System
- One Light Capability Rough Terrain Forklift (4K RTFL)
- One M1088 Medium Tactical Vehicle “Bobtail”
- One M129A1 Semitrailer Van,



Soldiers of the 2nd Brigade Combat Team participate in a Combined Arms, Sustainment, and Fires rehearsal to synchronize operations and sustainment, on training day eight during NTC Rotation 20-01. (U.S. Army photo)

containing the Combined Arms Battalion SSL

Distribution and LOGPAC Operations

The purpose of the BSA is to receive, configure and distribute all classes of supply for the brigade combat team. Distribution is primarily accomplished through three methods, which include:

- Supply point distribution
- Unit distribution
- Throughput

To synchronize distribution while operating across extended distances and durations, the COS must specify both the method of distribution, the location, and function of key sustainment nodes. The linchpin of BCT sustainment centers on ensuring that BN FTCPs are located in the BSA. The positioning of FSCs within the BSA facilitates the FSCs twice-daily LOGPAC and successful execution of distribution operations.

There are five primary benefits to arraying the FTCPs in the BSA. First, it allows the SPO to tailor asset allocation for LOGPAC operations and maximize sustainment responsiveness. For example, an FSC will usually resupply their BNs through twice-daily LOGPAC (unit distribution). However, when required, the SPO can utilize the ADC fuel, water, or transportation assets to augment an FSC or to conduct a BDE LRP to provide endurance specifically when the battlefield expands and distribution distances are extended and more taxing, especially in a successful offensive operation.

Second, this technique is beneficial for receipt of bulk supplies from the CSSB resupply to the ADC assets in the BSA. When the CSSB arrives at the BSA, ADC assets must be on hand and empty to receive the resupply, which is especially critical for Class III (petroleum, oil, and lubricants-bulk) supply. Since the arrival time of the CSSB resupply to the BSA can be unpredictable, it is critical that the ADC is present in the BSA to receive the full resupply quantity from the CSSB. This loop is too difficult to synchronize if the ADC fuel and water platoon M978 HEMTTs and TRMs are out on LRP missions to the FSCs, or are at full capacity of fuel due to missed LRPs with the FSC.

Third, co-locating FTCPs in the BSA improves the FSC's ability to configure combat loads by company prior to movement to the BN LRPs, thus reducing time on site at the LRP. As the BSB receives and issues supplies to the FSCs in the BSA, the FSC is simultaneously configuring company combat loads for the next LOGPAC. Configuring loads by company becomes particularly important with Class IX repair parts. In the BSA, FSCs are able to request and receive Class IX from the 4,252 lines of the Authorized Stockage List (ASL) in the SSA, and the 400 lines from the Bravo Maintenance Company SSL, and push it on the next LOGPAC. This consolidation of FTCPs in the BSA also allows BNs to share SSL through the Movement In Goods Out process in GCSS-Army, allowing each BN access to 2200 lines of SSL as opposed to the

300 maintained by the individual BNs. The process of sharing SSL becomes even more effective when maintenance meetings are conducted face-to-face daily with BN XO's or BMTs in the BSA.

Fourth, twice-a-day LOGPAC provides the means to complete daily 5988E exchange. The morning LOGPAC delivers clean hard copy 5988Es from the FTCP or the CTCP to the LRP and distributes them to the company first sergeants. 5988Es are then distributed to the platoons and operators who complete the preventative maintenance checks and services and have the FMT mechanics verify and research the faults. The evening LOGPAC retrieves the completed 5988Es and provides them to the BN ERPS clerks at the CTCP who add the faults and order parts in GCSS-Army where the NMC information becomes digital. This enables the supply system to fill the requisition from the SSL or ASL and the parts are picked and configured by the FSC for the next LOGPAC, or the requisition is referred to national.

Fifth, having FSC commanders at the BSA allows face-to-face coordination and deconfliction of LOGSTATs to ensure the SPO's synchronization matrix is both accurate and feasible. Additionally, it allows the FSC commanders to be able to participate in the brigade LOGSYNC and the brigade maintenance meeting which is conducted face-to-face in the BSA providing greater fidelity and common understanding of the COS. In addition during high operations

tempo, the FSC commander is able to coordinate with the BSB commander to gain authority to temporarily increase logistics capabilities at the CTCP based on METT-TC factors in order to facilitate twice daily LOGPAC while maintaining a safe work rest cycle for the distribution platoon.

CASEVAC and MEDEVAC Operations

To conduct effective CASEVAC with the number of casualties expected in decisive action, it is important to clearly delineate the battlefield areas of responsibility between the line company, the maneuver BN and the BSB medical company.

The responsibility for evacuation of casualties from the point of injury (POI) to the Role 1 Battalion Forward Aid Station or Main Aid Station typically located at the combat trains falls on the line company medics and the first sergeants, utilizing primarily CASEVAC. Actions at the POI include establishing security, treatment by self-aid/buddy-aid or combat lifesaver, and preparation for movement to the casualty collection point (CCP). Casualties are triaged and extracted when they arrive at the CCP. The extraction can occur utilizing the MEDEVAC company ambulance (M113 Armored Personnel Carrier or M997 HMMWV Ambulance), when casualty numbers are low, or by a nonstandard CASEVAC vehicles (Humvees or light medium tactical vehicles (LMTV) when casualty numbers are high. In the latter scenario, company first sergeants who are proficient in nonstandard

evacuation of casualties, by using Humvees or LMTVs to evacuate patients from POI to Role I MTFs, have the most success. When higher numbers of casualties are anticipated, it is imperative to predesignate CASEVAC vehicles.

The responsibility for MEDEVAC from the Role 1 MTF to the Ambulance Exchange Point (AXP) falls on the maneuver BN to execute. The BN's Role 1 assets typically include three or four ambulances (M113s or M997s) that they can provide to evacuate patients from Role 1 to the AXP, as the mission dictates.

The responsibility for MEDEVAC from the AXP to the Role 2 BSMC falls on the BSMC evacuation platoon. They use their six M113s (or M997s, depending on road conditions and terrain) to clear casualties from AXPs back to the Role 2 MTF. Mission dependent, the BSMC should preposition Role 2 M113s forward at Role 1 in order to expedite patient transport between the two MTFs. AXPs that echelon wheeled ambulances, forward coupled with prepositioning Role 2-tracked ambulances, at select Role 1 locations will significantly decrease the rate of patients dying of wounds. It is important to note that patients transported from Role 1 MTFs or AXPs via air MEDEVAC should primarily fly directly to a Role 3 MTF, bypassing Role 2 when mission geography allows.

Conclusion

In conclusion, sustaining the brigade combat team during

sustained ground combat operations requires a precise COS and refined unit SOPs. Leaders at every echelon must understand the purpose and organization of the company trains, CTCP, and FTCP in order to conceptualize how these key nodes interact with the BSB and CSSB functions. The COS should specify distribution methods, key sustainment node locations, and methods for evacuation of medical casualties and NMC equipment. Brigade combat teams that spend time thinking about how they will sustain themselves will have greater success when operating across extended distances for long durations, in both training and combat operations.

Lt. Col. Gabe Pryor recently commanded the 47th Brigade Support Battalion, 2nd Armored Brigade Combat Team, and is currently assigned to the division G-4, 1st Armored Division. Pryor earned a Bachelor of Science in Mechanical Engineering from Gonzaga University and a Master of Policy Management from Georgetown University. His military education includes Ordnance Basic Officer Leadership Course; Combined Logistics Captains Career Course, and Command and General Staff College.

Maj. Jason Bost was assigned as brigade S4 and support operations officer, 2nd Armored Brigade Combat Team, and is currently assigned to U.S. Army Cadet Command as an Assistant Professor of Military Science at Cameron University. Bost earned a Bachelor of Science in Criminal Justice from Illinois State University. His military education includes Ordnance Basic Officer Leadership Course, Combined Logistics Captains Career Course, and Command and General Staff College.

Featured Photo
The 184th Sustainment Command manages the Logistical Support Area (LSA) Warrior as the lead element of Joint Task Force Magnolia during a rotation at the National Training Center in Fort Irwin, California, in May 2017. LSA Warrior has everything required to support Soldiers living there including sleeping tents, dining facilities, shower and latrine facilities, and a laundry center. (Photo by Staff Sgt. Veronica McNabb)

Understanding the Organic Industrial Base

Increased Interest in 'Surging' Shows Importance of OIB

■ By Col. Christopher Bachmann

Surging the organic industrial base (OIB) has taken on increased interest over the past few years within the Department of Defense (DoD) and the executive and legislative branches of our government. This is evident with Presidential Executive Order 13806, on Assessing and Strengthening the Manufacturing and Defense Industrial Base and Supply Chain Resiliency of the United States, and its follow-on report, along with numerous other Government Accountability Office (GAO) and DoD studies and reports. The 'Iraq Surge' and 'Afghanistan Surge' placed stressors on our defense OIB that the U.S. had not experienced in decades. These experiences—along with the 2018 National Defense Strategy's (NDS) shift to strategic competition and peer adversaries, like China and Russia—have caused a renewed interest in understanding our nation's ability to surge, and, more importantly, the OIB's ability to sustain a surge.

The Joint Publications do not define the term "surge." We can draw on historical examples in order to illustrate its meaning. The United States surged its military forces in 2007 for Operation Iraqi Freedom and 2009 for operations in Afghanistan. The face of these surges was the increase of American forces i.e. personnel and their organic unit equipment. However, the unseen or forgotten piece of these surges was the necessity for sustainment resources provided by the industrial base. The primary

provider of sustainment resources is the United States' organic industrial base composed of the services' depots and arsenals. These depots and arsenals normally do not operate at maximum capacity in order to provide surge capabilities. As outlined in Department of Defense Publication 4151.18-H, Reserve Capacity "is retained to support the projected requirements of the Joint Chiefs of Staff contingency scenarios; but is not utilized under normal conditions."

Each service has reviewed the state of their OIB capabilities and facilities and attempted to address gaps. For example, the Army has made deliberate efforts over the past few program objective memorandum (POM) cycles to increase the funding for both government-owned-and-operated and government-owned-and-contractor-operated facilities. Similarly, the Office of the Secretary of Defense for Cost Analysis and Program Evaluation has directed that services increase the minimum sustainment levels for their facilities; specifically, laying in funding-ramp increases throughout the Five-Year Defense Plan. Firsthand observation of Letterkenny Army Depot, Pennsylvania, Anniston Army Depot, Alabama, and the Coast Guard shipyard in Baltimore (not a DoD facility) showed the signs of operational readiness prioritization over facility sustainment. Force readiness has continued to be the top priority of the services; often at the expense of the organic industrial base.

While the DoD recognizes it needs to improve the readiness of its OIB, there are two questions that require answers to ensure the U.S. is ready to defeat its peer adversaries. In the context of surge, these are:

1. What is the true capacity of each service's OIB?
2. What are the levels of surge that the nation must support?

Both questions are important to understanding the nation's true readiness. If the DoD successfully improves the condition of its OIB, then modeling, simulation, and analysis are needed to rigorously answer the first question. The information gleaned from accurately understanding the OIB's capacity will inform the second question. The U.S. currently does not have a framework that clearly defines surge levels that the DoD can use to determine whether the OIB can successfully meet various surge requirements. This article will present a framework that defines surge levels and the capital investment required to achieve each surge level. The proposed framework should not be accepted as the solution. Rather, it is an example to show the importance of creating surge levels.

Defining the Framework

The DoD must have a framework that defines levels of surge and can inform decisions about the OIB. Otherwise, surge will remain a generalized topic that has no tangible meaning. It is not possible for the DoD to make accurate



Figure 1: 2017 GAO report of the services executed workloads in DLH.

resourcing decisions about the OIB if it cannot be connected to a quantifiable variable. Appropriating funds, without a framework that defines surge levels, promotes waste and the use of resources that the DoD can use for higher priorities. Legislators cannot effectively appropriate funds to resource the OIB to sustain a surge without knowing how much is necessary.

Each service's surge levels require different allocations of resources. The final framework requires a robust analysis of all services, and their requirements outlined in the NDS to strategically defeat the nation's adversaries.

After two decades of persistent

conflict, fighting regional conflicts and terrorist organizations, the U.S. shifted its focus to great power competition, as described in the 2018 NDS. This placed an increased level of scrutiny on the nation's ability to defeat peer and near-peer adversaries. An important component to successfully executing the NDS is the DoD's ability to surge. Critical to surging and defeating peer and near-peer adversaries is the nation's ability to maintain, repair, and overhaul (MRO) joint force equipment. However, providing ready forces on the battlefield has taken precedence over the health of the OIB. As a result, DoD leadership directed programmers developing the POM to prioritize operational readiness over sustainment of the MRO

facilities. Similarly, OIB facilities echo a similar focus on operational readiness at the expense of facility sustainment. Consequently, these facilities require substantial funding resources to overcome years of neglect. The DoD has begun to address this issue in recent POMS and increased programming to these facilities. The current condition of OIB facilities and recent dedication of more funding to the OIB is important to highlight because the capacity of the industrial facilities can be significantly affected by their condition.

Measuring OIB Capacity

As stipulated above, understanding the level of surge that the OIB can sustain is directly tied to its capacity. Therefore, before

defining a framework to determine surge levels, a brief summary of how the OIB currently measures its capacity is necessary.

The seminal document that defines how the DoD should measure the capacity of its OIB is DoD Directive 4151.18-H, Maintenance of Military Materiel. It defines capacity using direct labor hours (DLH) and calculates it by multiplying the number of work positions by the percentage of time the work positions are available by the number of productive work hours in a year. It uses 95% for availability and 1,615 for productive work hours per year. Finally, it adds the DLHs the depot field teams provide to calculate total capacity for a specific depot, DoD uses DLHs to fund MRO facilities. For example, a 2017 GAO report included figure 1 for the services' executed workloads expressed in DLH.

Unfortunately, neither the DoD Directive 4151.18-H or the GAO report provide the OIB's capacity.

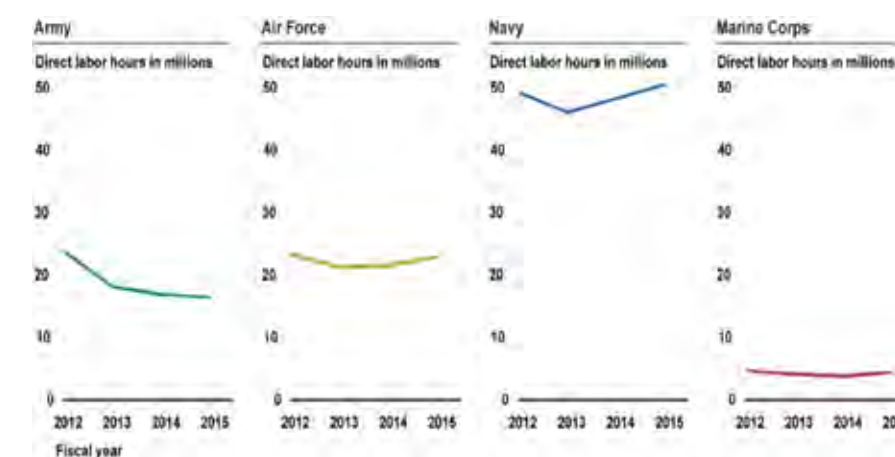


Figure 2: Workload Executed at Depots in Fiscal Years 2012 through 2015, in Direct Labor Hours

DLHs may be an effective method for DoD to convey its yearly budgetary requirements, but it is not an effective measure of capacity. Using a historical perspective, World War II producers did not use man hours to calculate production capacity. The next section will recommend more robust methods to determine the OIB capacity.

Determining OIB Capacity

A challenge the OIB faces is answering whether it can support a surge. This is a two-part problem. First, the OIB must know its true capacity in order to know how much more support it can provide above its current output. The U.S. Air Force Materiel Command (AFMC) Surge Contingency Plan 70 is the best unclassified example to quantify surge capacity. It links assessing baseline and surge capacities to "relevant war plans." It also directs the creation of surge plans that include "plant capacity, manpower, repair parts, carcasses, and other production factors." However, anecdotal evi-

dence indicates that some MRO facilities do not have quantified and documented surge plans. In most cases, responses were rough estimates of what might be possible.

The common response from both government and private MRO providers was, "How much more do you want/need?" The answer requires the DoD to quantify the surge level that the OIB must support. Throughout the OIB industry study's engagements, individuals—including both government and private MRO leadership—used surge colloquially to mean "more." It always meant more, but how much more has never been defined.

This is similar to what occurred during World War II. In the face of having to mobilize, Bill Knudsen—one of the architects of U.S. mobilization—asked Army generals what they needed. They were unable to quantify their needs in a manner that industry could produce. Extending the Bill Knudsen example, DoD leadership must establish a framework that quantifies the levels of surge, which will enable the OIB to determine their ability to sustain each level.

In order for the DoD to accurately understand the capacity of its OIB, it must conduct a rigorous analysis at each of the 17 government-owned MRO facilities. This analysis must go beyond the method prescribed in DoD Directive 4151.18-H, which calculates DLHs. As stated before, DLHs provide an effective

method to develop yearly budgets for the MRO facilities but fall short of measuring their capacity. Conversely, the AFMC Plan 70 better articulates the necessary steps in order to calculate true capacity because it goes beyond manpower and includes “plant capacity and other production factors.” The author recommends two addendums beyond Plan 70.

The first recommendation is for the DoD to extend a single policy, similar to Plan 70, that directs the services how to measure their facility capacities. The DoD needs a common methodology across the MRO facilities to ensure compliance but also to ensure oversight at the DoD, executive branch, and legislative branch levels.

In addition to a service policy alignment, the DoD should conduct a multifactor production study at each MRO facility. Calculating capacity based on DLHs alone is not sufficient. As Arthur Herman points out in *Freedom’s Force*, “machine tools are the heart of the industrial process.” Extending this to the current reality, MRO facilities must account for the capacity of their machine tools, and other fixed capital and material production factors. Specifically, the facilities should leverage computer-aided modeling and simulation used in capacity requirements planning software. These tools allow modeling of complex systems and their interactions. They take advantage of queuing theory that

incorporates resources such as machines, manpower, material utilization factors, wait times, mean arrival, and service rates. Moreover, these systems allow both sensitivity analysis and managers to run excursions. Ultimately if the U.S. wants to truly understand its OIB capacity, it needs to utilize powerful modeling and simulation tools built for answering manufacturing capacity problems. Doing so, the DoD will be in a better position to answer the true OIB capacity.

The second recommendation is for the DoD to define surge levels. If it does not define surge levels, the OIB will be unable to determine if it can support nor will it know the costs associated with increasing capacity to achieve specified surge levels. In order to define surge levels, the DoD needs to direct each service to establish a baseline. From that baseline, the services can then set increasing levels of surge. Couple the increasing surge levels with the knowledge gained from modeling and simulating the capacity of each OIB facility, and the DoD can then identify the capacity gaps. Once the OIBs identify their capacity gaps, they can determine the resources needed and the costs to mitigate or resolve the gaps. Figure 2 provides an illustrative example pairing surge levels with associated costs.

Establishing a Baseline

Critical to this framework is establishing the baseline. The NDS should guide the services in determining their baseline. Each service would use its NDS pacing

threat as the foundation for its baseline. For example, the Army would select the operational plan (OPLAN) that places the most demand on its OIB to support the successful execution of that OPLAN. The resources needed to maintain the Army’s readiness during peacetime to successfully execute that OPLAN would serve as both the baseline force and baseline cost. This framework proposes using OPLANs as the basis for the baseline, and congressional staffers similarly use OPLANs for such analysis. They stated OPLANs were the lens they used to determine military readiness. Using this as the framework’s baseline, the services can then expand on their baselines for increasing levels of surge.

Figure 3 shows equal increments of increased surge from the baseline. However, the increments do not have to be equal. X1 could represent 25% more than the baseline and X2 could be a 100% increase, rather than 50%. Additionally, the framework does not have to be limited to four levels. Moreover, for each level of surge, it is important to define the criteria for that specific surge level. A recommended methodology to define the levels is:

- X1: Global engagement force plus peer OPLAN ready force
- X2: Limited regional adversary operation plus peer OPLAN ready force
- X3: Major regional adversary operation plus peer OPLAN deter force
- X4: Peer OPLAN execution

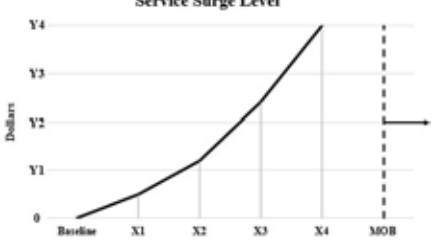


Figure 3: Service Surge Level vs. OIB Capacity Costs

- plus regional adversaries deter force
- MOB: Mobilization

The first level of surge, X1, is the baseline plus a service’s current global engagement not specifically tied to generating readiness for the OPLAN ready force. This is an important first level because it highlights the costs associated with maintaining the OPLAN ready force in addition to current global engagements. The nation’s global engagements often use readiness needed for the OPLAN force. This ultimately increases the costs to maintain the OPLAN ready force. In addition to X1, it is important to highlight a nuance between X2 and X3. The OPLAN force is significantly different. Due to X3 being a major regional operation, it may be infeasible to maintain an OPLAN force ready to successfully execute the OPLAN. As a result, rather than an OPLAN ready force, it is only an OPLAN deter force. This is a situation where more granularity may be needed, thus requiring more defined surge levels. Lastly, DoD needs to conduct analysis to determine where the potential line between surge and mobilization occurs. This is not a definitive or quantified value,

but a range of criteria that would indicate mobilization is necessary. While the x-axis is challenging to define, the y-axis is exceedingly more complex and difficult.

In order to determine the y-axis, the DoD could apply two layered analytical approaches. The first layer would use modeling and simulation to quantify the OIB’s current capacity and capacity gaps, and determine what is needed to successfully support each surge level. The second layer requires another set of models and simulations. The DoD could use their combat simulations to run the operational scenarios associated with each surge level. These operational scenarios provide unit and weapons system attrition rates over time. They also provide the OIB the MRO demand that each surge level generates. Knowing the current capacity, needed capacity, capacity gaps, and the resources necessary to mitigate these gaps allows the DoD to produce cost estimates for the y-axis associated with the surge levels on the x-axis. Having the data and analysis to generate the service surge-level graphic would provide strategic decision-making information for the DoD and national leadership.

Conclusion

Force readiness, as in unit readiness, is critical. Units ready to fight without an industrial base to sustain them are potentially more dangerous than units not ready to deploy. Having a high state of readiness enables national

leadership to employ forces more quickly; once employed, the inability to fully sustain them would be devastating. If the DoD wants to truly understand its OIB capacity, with respect to its ability to surge, it must take an aggressive approach to determining that capacity. Additionally, the DoD must leverage a framework, like the one presented here, in order to establish surge levels.

With this information, the DoD and the nation can make informed discussions on the OIB, its ability to meet baseline requirements, and the costs of increasing levels of surge. The speed of future conflict will not allow the time needed to ready the nation to mobilize as it did during World War II. As a result, the nation must know its current OIB capacity and the resources, capital investment, and time necessary to support specified levels of surge. Failing to do so could mean the difference between winning and losing a war against a peer or near-peer adversary.

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*Feature Photo
Beth Mitchell cleans a hydro-mechanical unit for an AGT-1500 engine as part of Anniston Army Depot’s Condition-Based Overhaul program. Anniston Army Depot is part of the Army’s Organic Industrial Base. (Photo by Jennifer Bacchus)*

Maintaining Holistic Army Warriors

Sgt. Luke Price, 626th Support Maintenance Company, executes a hand release push-up during the Army Combat Fitness Test (ACFT) as part of the Blackjack Challenge hosted by the 1st Theater Sustainment Command operational command post at Camp Arifjan, Kuwait, March 10. (Photo by Spc. Dakota Vanidestine)

■ By Gen. Paul E. Funk II

The Army has a culture of maintenance that begins in basic combat training when trainees devote hours to cleaning their weapons. This culture of maintenance continues at the Soldiers' duty stations when command maintenance day means a Soldier's place of duty is the motor pool. When in the field, we plan time to conduct weapons and vehicle maintenance, because these pieces of equipment are essential to our survival in combat. One of the most important statistics quoted in meetings is the operational readiness rate. Anything less than 100% requires an explanation of why the equipment is down, the parts needed to repair it, and an estimated date when the equipment will return to operational condition.

Now, let us think about our Soldiers. People are our number one priority. We need to add people to our list of things we attend to every day. At any given moment, the Army averages a 6% nondeployable rate. Of that 6%, the majority of Soldiers are nondeployable for medical reasons, which does not include short-term temporary injuries. This number also

does not include Soldiers who fail to meet Army body composition standards or those who fail to meet the minimum Army physical fitness test (APFT) standards. How many of our leaders know the exact status of each and every one of our Soldiers? According to Army Chief of Staff Gen. James McConville, they are our "greatest strength and our most important

weapon system." It is my firm belief that we all know the status of the pack for our non-mission capable M1 series Abrams tank and its estimated completion date, but do we know the same level of detail for the Soldier who sprained his or her ankle on the platoon foot march last week?

Holistic Health and Fitness

It is time for us to retool the way we look at people maintenance. Through the Holistic Health and Fitness (H2F) System, we apply our conceptual framework of equipment maintenance to people maintenance by focusing on optimizing, not just maintaining, our Soldiers. H2F is the Army's primary investment in Soldier readiness and lethality, optimized physical and nonphysical performance, and injury reduction and rehabilitation to enhance overall effectiveness of the Total Army.

Creating a Culture of Fitness

U.S. Army Training and Doctrine Command (TRADOC) is leading the Army's effort to change the culture of fitness. But what exactly does this mean? One could argue the Army has an outstanding culture of fitness—most units start each day with physical training; we have height/weight and body fat standards; we have physical fitness tests and standards; and we conduct unit physical readiness training (PT). However, a culture of fitness should consist of more than an hour-long PT session with the same 'daily dozen' and a four-mile run.



Command Sgt. Maj. Bernard P. Smalls, senior enlisted advisor, 1st Theater Sustainment Command, speaks to a group of senior non-commissioned officers after an Army Combat Fitness Test training session July 14 in Fort Knox, Ky. (Photo by Spc. Zoran Raduka)

At TRADOC, we strive to create a culture of holistic health and fitness by focusing on each Soldier's physical and non-physical well-being with the goal of optimizing each Soldier's overall performance and reducing musculoskeletal injuries.

The H2F culture change begins with changing the way we view fitness. The most obvious way to stimulate that transition is to change the Army's physical fitness test. The Army Combat Fitness Test (ACFT) is a better predictor of overall fitness than the legacy Army Physical Fitness Test (APFT). The ACFT is closely aligned with the skills required of our Soldiers in combat.

While it does require more effort to administer, more equipment, increased time to train, and greater specificity in the exercises involved these should be viewed as positives, not negatives, because of the added benefits the ACFT brings.

Can you imagine a world where collegiate or professional athletes limited themselves to push-ups, sit-ups, and running as the only mandatory part of their workout? Would that workout prepare them to perform at the highest level? Of course not. This is why professional athletes have specialized, tailored fitness and conditioning programs that are correlated to their sport and their skill position. Why, then,

should we as Soldiers—professional Soldiers—settle for less? We should not.

The ACFT is a better predictor of operational fitness than the APFT. The ACFT is scientifically aligned with the most critical, high-demand common Soldier tasks required for multi-domain operations. Additionally, the ACFT drives balanced and appropriate physical training that will hopefully reduce overuse injuries and unplanned attrition as a result.

Holistic Fitness

The ACFT is not the sole solution to the H2F problem. This is why the H2F program includes

dietitians, physical therapists, occupational therapists, certified athletic trainers, and strength and conditioning coaches as part of the H2F Human Performance Team. Just as professional athletes tailor their workout regimens, nutrition, sleep, and mental preparation to their sport, body type, and specific needs, we are also striving to take similar steps.

In order to achieve optimal performance, our Soldiers need to know how to modify their diets to ensure they receive the appropriate quantity and quality of nutrients for their bodies. They need to understand the importance of sleep for performance optimization. They need to know the proper exercises and how to perform them in order to prevent injuries. These and many other considerations will be addressed by the brigade Human Performance Teams. Certified professionals will provide specialized programming to ensure all units optimize health and fitness. These uniform programs will transcend units so when Soldiers PCS, they will fall-in on a program they recognize that is designed for them.

The physical component of performance is only one aspect of the culture change, though. Equally as important—if not more so—are the nonphysical components of H2F. Just like maintenance of the physical self, maintenance of the cognitive, spiritual, and emotional self are critical to Soldiers' performance under the duress of combat. To that end, we are placing significant

focus on resilience, spiritual health, and mental health aspects of fitness by incorporating evidence-based practices, such as mindfulness and yoga into PT. The focus on the nonphysical domains prepares our Soldiers before the problem manifests.

Through targeted education and training, we will improve mental and spiritual skills—such as emotion management, character development, mental toughness, and spiritual enlightenment—to enhance performance. Like daily physical training, we will embed the nonphysical components of fitness into our fitness culture.

The Importance of Leadership

The key to success of the H2F program, however, is changing the culture of fitness to make holistic health and fitness an integral part of everyday Army life. This takes leadership. Leadership that is educated. Leadership that is dedicated. Leadership that understands that people are our number one priority. It is necessary for our leaders to embrace the tenets of H2F by modeling, participating in, and managing the H2F system. Only through complete and engaged involvement from leaders can we change the culture to optimize physical and nonphysical fitness. So how do leaders do this? What are the actions our leaders need to take?

First and foremost, our leaders must believe in the system in order to be the agents of change. Let us take the ACFT as an example. If

leaders at every level fail to embrace the ACFT, then the H2F program will fail to produce healthy and fit Soldiers. During ACFT pilot testing, TRADOC repeatedly fielded negative questions and comments from leaders in the force about the ACFT: it is too hard; it requires too much equipment; the leg tuck is discriminatory; it takes too long to administer the list goes on and on. I am not implying that anyone should stop asking questions or making comments. On the contrary, we need feedback so that we can address the issues and make improvements. But we need leaders to be part of the solution.

In the words of a great friend, “Don’t freak out, work out!” Yes, the ACFT is tough. We purposely made it tough because we need tough Soldiers to do tough jobs. However, it seems more challenging now because it is new and because it stresses a different kind of fitness—one that cannot be gained over a couple of weeks doing push-ups and sit-ups prior to an APFT. In addition to aerobic endurance training, the ACFT requires us to go to the gym and lift weights or lift and move heavy objects (sandbags and ammunition cans come to mind). The ACFT requires us to transform our bodies in a way that only calisthenics and running—both former staples of most Army PT programs—cannot. It is impossible to believe anyone would argue that gaining strength, power, coordination, balance, and agility in addition to aerobic endurance is bad for Soldiers.

As leaders, we must set the example. The ACFT is an example of the Army’s commitment to its people. It will strengthen our fitness culture, reduce injuries, and increase individual readiness. We have an obligation to our Soldiers to provide them with an immersive, integrative, and comprehensive training system to ensure their success on the ACFT.

Secondly in order to change the culture, our leaders will have to know more about fitness—holistic fitness—than we have in the past. H2F is a system that pulls from the cutting edge of multiple disciplines to optimize Soldier performance. What we are not doing is taking fitness training out of the hands of leaders. On the contrary, we expect leaders to be decisively engaged in the program in order

to ensure its viability. This requires education of our leaders on a variety of topics—fitness programs, nutrition, sleep, resilience, and mindfulness—so that those leaders, and their Soldiers and units, can truly benefit. The H2F Human Performance Team is intended to be a combat multiplier—a source of knowledge and expertise—not a replacement for leadership within the fitness domain. Our leaders will have to learn more, retain more, and promote holistic fitness more in order for H2F to provide more.

Finally in order to change the Army’s culture of fitness, our leaders will be required to reorganize and reallocate something very precious: time. Fitness takes dedicated time. Physical fitness time should be sacrosanct in units, but

it is not. We routinely start meetings at 8 a.m. or earlier; we plan rehearsals during physical training time because it is convenient. We should avoid these actions. In order to change the culture of fitness in the Army, holistic fitness has to be a priority. We need our leaders to ruthlessly protect physical training time and to plan effective physical training, even in the field. By doing so, we will signal to our entire formations that physical training is a priority.

Gone are the days when Soldiers go to the field for three or four weeks and return out of shape. The new culture of fitness does not support “quick fix” physical training plans to pass the push-up and sit-up events. We, as leaders, will need to provide time for our Soldiers to avail themselves of



Sgt. 1st Class Lamar Shephard, 401st Army Field Support Brigade, gives the initial block of instruction to all participants of the Blackjack Challenge hosted by the 1st Theater Sustainment Command operational command post at Camp Arifjan, Kuwait, March 10. (Photo by Spc. Dakota Vanidestine)



Master Sgt. Amy Prince of the 101st Airborne Division (Air Assault) Resolute Support Sustainment Brigade attempts to lift 280 pounds during the deadlift event of the Army Combat Fitness Test, Aug 14, 2018, on Bagram Airfield, Afghanistan. (Photo by 1st Lt. Verniccia Ford)

the nonphysical portions of the H2F program, as well. Once again, I realize this may require you to reorganize your work day. You may be in the motor pool at 6:30 a.m. and in the Soldier Performance Readiness Center at 1 p.m., but that is the cost of changing the culture. If we are serious about making holistic health and fitness a priority in our formations, then our actions must reflect that.

There is No Such Thing as a Coincidence

We are a professional Army charged with the mission of supporting and defending the Constitution of the United States against all enemies, foreign and domestic. This is an awesome responsibility. To be

successful requires that we be ready to fight and win on any battlefield, at any time, against any adversary. As Col. Lewis A. Walsh, commanding officer of 517th Parachute Regimental Combat Team, said in 1944 in a letter to his Soldiers, “Success in battle goes to the troops ‘who can take one more step and fire one more shot’ than the enemy.”

We will not accomplish this by happenstance or luck to our entire formations—there is no such thing as a coincidence. Just as we have emphasized weapon and equipment readiness in the past, our success in the future hinges on people readiness. H2F is the system through which we will achieve Soldier optimization

to meet the challenges ahead. It is incumbent upon each of us to our entire formations—from me as the TRADOC Commander all the way to the team leader in a rifle squad to our entire formations—to be agents of change and influencers in the culture of fitness within our great Army. It will be difficult and it will be uncomfortable, but it will be worth it.

Gen. Paul E. Funk II currently serves as the 17th Commanding General, U.S. Army Training and Doctrine Command. He is responsible for 32 Army schools organized under eight Centers of Excellence that recruit, train, and educate more than 500,000 Soldiers and service members annually. Funk is a graduate of Armor Basic and Advanced Officer Leader Courses, Command and General Staff College, and has completed his Senior Service College as a fellow at the Institute of Advanced Technology, University of Texas at Austin.

COVID-19 Response

Sustainment in a Pandemic

■ By Lt. Col. Jason Book, Maj. John Burns, Maj. Kristin Fiala, Maj. Hector Garcia, and Capt. Jaime Welsh

On April 9, 13th Expeditionary Sustainment Command (13th ESC) plunged into the COVID-19 fight. For weeks, the commander and staff monitored the developing global pandemic that was starting to take hold in the continental United States (CONUS). Up until two weeks prior, the staff was anticipating a deployment to Poland in support of the DEFENDER-Europe 2020 training exercise. About a quarter of the staff was already forward, including the support operations officer, the G-4, and the G-3 future operations chief. They were now on lockdown in Poland, awaiting a timeline for redeployment and quarantine. Additionally, all of 13th ESC's mission command systems were in Poland.

13th ESC faced a difficult scenario. Compounding their organizational and mission command challenges, the federal response to COVID-19 was led by the Federal Emergency Management Agency (FEMA). This would mean that many systems, and much sustainment decision making, would occur outside of 13th ESC's control. Despite significant organizational and interagency challenges, 13th ESC leveraged the military decision-making process (MDMP) and adept execution of mission command to provide sustainment to medical operations that would save American lives.

In the hours and days following the deployment order from U.S. Army Forces Command, 13th ESC pushed teams to Dallas, Texas;

Detroit, Michigan; and Baton Rouge, Louisiana. Liaison officers also launched immediately to 377th Theater Sustainment Command headquarters in New Orleans and to the Task Force-Center headquarters in Battle Creek, Michigan. 13th ESC was assigned under operational control of 377th Theater Sustainment Command with a direct-support relationship to 46th Military Police Command, which established Task Force-Center under U.S. Army North, Joint Forces Land Component Command.

Concept Development

This situation was unprecedented for 13th ESC and the command needed a plan. Like any military operation, this required the staff to execute the MDMP. Mission analysis was the crucial first step to identifying

While a sizable advanced party was already in Poland preparing for the largest Army training exercise in Europe in a generation, the remaining staff had to rapidly switch focus to a very real threat at home.

the nuanced challenge that the team would face. There were few facts available and many assumptions were required just to start planning a course of action to sustain the fight in the area of operations, which encompassed the states of Arkansas, Louisiana, Texas, New Mexico, Oklahoma, Kansas, Nebraska, Missouri, Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, and Iowa.

The first major assumption was that 13th ESC would need to sustain multiple medical operations spread across the central part of the U.S. However, the command had little experience deploying teams smaller than an early entry command post of 50 or more sustainment professionals to a contingency operation. This was not a viable solution when the joint operations area stretched from the Gulf of Mexico to the Canadian border. The commander and staff realized that the economy of force would need to be balanced across the tyranny of distance to properly sustain the fight against the virus.

Analysis of the higher headquarters' orders, and of sustainment operations by 3rd ESC occurring on the east coast, also indicated that 13th ESC would have to rapidly assess gaps in civilian and military sustainment infrastructure when they arrived at their mission location. Next, they had to be able to establish sustainment operations. Their key tasks, once assessment was complete, were to establish effective supply point distribution and to build stockage levels of required supplies to sustain medical operations.

The staff also realized that their teams would deploy into a whole-of-government environment where Department of Defense (DoD) forces would not be the lead federal agency. The professionals from FEMA, as well as multiple state and local response agencies, were leading local responses. FEMA operationalizes their support through a mission assignment process that directs other federal agencies to support state requirements, as necessary. The mission assignments were often coordinated so that key commodities such as Class VIII (medical materiel) were sourced by state or local authorities rather than through the Defense Logistics Agency. This arrangement had the potential to create issues because of local or state inability to source material and a lack of visibility that would have been provided by the military supply chain systems of record.

Active duty troops were not the only personnel wearing military uniforms. Before Title X forces arrived, Title 32 National Guard forces were already responding in many states. However, until dual status commanders were assigned in each state, it was difficult to coordinate Title 32 and Title X operations. Additionally, the preponderance of Title X forces came from Navy Expeditionary Medical Facilities and Urban Augmentation Task Forces which came in with very little equipment and relied heavily on both federal and local support to sustain operations.

Further complicating operations was the unpredictable nature of COVID-19. From a planning perspective, the various rates of the spread of the disease across different states made planning for future operations difficult. The mission assignment process that relied on state requests, and not necessarily the greatest need, also complicated predicting exactly where 13th ESC would have to send troops.

13th ESC also faced a novel and lethal threat that complicated force health protection. In a pandemic response plan, it is imperative to consider force health protection as an essential task in order to ensure mission execution. At the time that 13th ESC was called upon for support, there was, and remains, a significant lack of understanding of the disease. This differed from a typical deployment where theater entry guidance is specifically outlined by the combatant command based on significant data on longstanding medical concerns. The 13th ESC command surgeon pointed out that it was necessary to individually assess each Soldier's risk of developing complications should he or she become infected with COVID-19; and then make a recommendation on their ability to support operations in areas affected by the virus.

Lastly, the potential for asymptomatic spread and the uncertain extent to which it was occurring was a limiting factor for personnel availability. Consideration had to be taken for

the unknown risk of exposure while operating in areas with high rates of disease spread and potentially having 13th ESC personnel placing further strain on an already stressed medical infrastructure.

As a result of the mission analysis—much of which was conducted in a distributed fashion from home offices to prevent outbreak within the headquarters—the commander determined that the unit needed to provide a rapidly deployable and flexible sustainment capability. Given the sometimes difficult nature of predicting results of FEMA's mission assignment process, planners realized that 13th ESC would have to be ready to provide sustainment support in multiple locations. This called for small multifunctional teams that could rapidly deploy and bring significant sustainment capability. Forward assessment and sustainment teams (FAST) were born through mission analysis and the course of action development process to fill this need.

The mission analysis process identified likely capabilities that the FASTs needed, organically. First, FASTs must be problem-solving organizations. They would need to be made up of experienced leaders that could work outside their area of expertise by leveraging creativity and perseverance. Field grade officers were hand selected to lead the teams that were staffed with a complement of senior noncommissioned officers, warrant officers, and talented junior officers.

More specifically, the FASTs would first need to conduct joint reception, staging, onward movement, and integration of personnel supporting the DoD COVID-19 response. This process would require personnel experienced in human resources management as well as logisticians and leaders who could coordinate movement of personnel from serial ports of debarkation to their work locations.

The FASTs would also require a skilled commodity manager who could order and track any supplies required to sustain medical operations. The ESC could not send an expert in every commodity, as the distribution management center would quickly run out of personnel. The teams needed to be small and responsive to economize force and maintain rapid deployability.

As mission analysis progressed, it became clear that operational contracting support (OCS) would be critical to sustaining medical operations. Medical care was being provided in urban centers that were often significantly removed from base support installations (BSI) that were initially designated to provide life support and other sustainment needs. OCS teamed with a contingency contracting officer (CCO) and a contracting officer representative (COR) to mitigate some of the issues created by the distance between BSIs and treatment locations.

FAST Deployment

With the concept developed, the

command prepared to deploy their teams. The FASTs deployed and sustained medical operations in Detroit, Dallas, New Orleans, and Baton Rouge. A team also executed a site assessment in Chicago, but ultimately no Title X forces were committed there.

The whole-of-government nature proved challenging and took FASTs out of the familiar DoD-led realm of operations. Dual status commanders (DSC)—commanders with both federal and state authority—were critical to coordinating Title X and Title 32 operations. They smoothed out issues often caused by the mission assignment process and other friction between federal and state agencies. However, dual status commanders were not always appointed throughout the entirety of the FASTs’ operations.

Regardless of whether a DSC was appointed, FAST leadership took on collaborative relationships with their civilian counterparts to informally build interoperability with state and local responders. FASTs took the time to learn the civilian processes at the Detroit alternate care facility (ACF) warehouses and then use their expertise in military supply chain management to consult on improvements to processes and procedures. This sort of collaboration had the dual benefits of enhancing Class VIII (medical materiel) efficiency and increasing the FAST’s understanding of stockage levels and the supply chain of critical medical material. FAST experts were able to achieve mission

success without taking over the civilian-run portions of sustainment infrastructure.

The contracting team was also critical to the effort. Having OCS personnel, CORs, and CCOs collaborating—locally and remotely—made sustaining operations executable at the U.S. Army Corps of Engineers-constructed ACFs in the hearts of metropolitan areas. These ACFs were often built within existing infrastructure, such as convention centers or schools. They were sometimes hours away from the designated BSI that DoD had originally designated to provide life support. The contracting team was able to contract for food and lodging in close proximity to the ACFs that would have otherwise severely hindered operations if not available.

Conclusion

Few units plan for the complications presented to 13th ESC in March and April of 2020. While a sizable advanced party was already in Poland preparing for the largest Army training exercise in Europe in a generation, the remaining staff had to rapidly switch focus to a very real threat at home. 13th ESC staff leveraged the MDMP to create a course of action and then executed it, relying on the principles of mission command, to ensure that medical units from throughout CONUS could rapidly deploy and work to save American lives. When the next disaster strikes, 13th ESC will be ready to adapt, but with the experience and lessons learned

driving an even more efficient and effective response.

Lt. Col. Jason Book currently serves as commander of the 25th Transportation Battalion, 19th Expeditionary Sustainment Command (ESC). He has a degree in political science and completed Command and General Staff College.

Maj. John Burns currently serves as G-9, 13th ESC, Fort Hood, Texas. He holds a Master of Business Administration from Wake Forest University and a Bachelor of Science in Political Science from the United States Military Academy at West Point. He has commanded at the company level and has significant experience leading joint and multinational humanitarian assistance and disaster response capacity building operations across the U.S. Indo-Pacific Command area of operations.

Maj. Kristin Fiala currently serves as command surgeon for 13th Expeditionary Sustainment Command, Fort Hood, Texas. She earned her medical degree as a graduate of Uniformed Services University of the Health Sciences and completed her emergency medicine residency at San Antonio Military Medical Center. She is a board certified emergency physician and previously worked at Madigan Army Medical Center, Joint Base San Antonio, Texas where she served as assistant program director for emergency medicine residency.

Maj. Hector Garcia has more than 18 years military service as both an officer and enlisted Soldier). He currently serves as comptroller, 13th Expeditionary Sustainment Command. Garcia holds a Bachelor of Science in Chemistry.

Capt. Jaime L. Welsh currently serves as a force protection officer for 13th Expeditionary Sustainment Command, Fort Hood, Texas. She holds a Bachelor in Business Administration and Political Science from Arizona State University. She is currently pursuing a master’s degree in international relations from Webster University.

Featured Photo

Spc. Daniel Fields, assigned to the 9th Hospital Center, takes a patient’s blood pressure reading in the Javits New York Medical Station (JNYMS). Soldiers, along with Department of Health and Human Services personnel and other federal, state and local agencies began operating a field hospital out of the JNYMS March 30 to care for non-COVID-19 patients in an effort to relieve the burden on local hospitals, allowing them to focus on coronavirus patients. (Photo by Navy Chief Mass Communication Specialist Barry Riley)

BASE OPS SUPPORT

Qatar Operations, Logistics Tested in the Midst of COVID-19

■ By Lt. Col. Mark Wolf and Maj. Rachelle Quashie

The menus from March 17 remain encased on the walls of the Camp As Sayliyah (CAS) Dining Facility (DFAC) as if time had stopped. That day, Soldiers and Airmen had packed the award-winning “Patton’s Own” DFAC as they had done so many times before; enjoying quality meals with their buddies and co-workers. The following day, servicemembers ate meals, ready to eat (MREs) outside the DFAC by themselves.

The world and the operating environment had changed with the onset of COVID-19. It compelled Area Support Group-Qatar (ASG-QA), the Regional Contracting Center-Qatar, and tenant units to reexamine every facet of operations and logistics.

COVID-19 response refers to operations designed to mitigate the effects of the COVID-19 outbreak and reduce potential impacts to medical readiness and support to tenant unit missions. COVID-19 response became the framework through which leaders assessed the merits and risks of each mission, task, and sustainment function.

In the days that followed, the ASG-QA commander issued guidance to temporarily suspend services at the CAS DFAC; Post Exchange; fitness centers; and Morale, Welfare, and Recreation facilities. Every

category of support came to an abrupt halt as leaders scrutinized requirements with a new element of risk: the possible spread of COVID-19 in our formations. Then something amazing happened when Soldiers took over base life support functions that had been contracted for decades. This ‘greening’ of sustainment started in the DFAC but soon extended to the post shuttle bus, water distribution, and other life support functions. The following is an account of the decision making, challenges, and best practices developed during the height of COVID-19 response in Qatar.

Background: From Desert Storm to Qatar Base Operations Support Services (Q-BOSS)

Following Desert Storm, the U.S. Army built up strategic capabilities in Qatar including Army Prepositioned Stock, U.S. Army Medical Materiel Command Southwest Asia, and Joint Tactical Air Ground Station. Many troops take rest and recuperation at CAS, and many even visited Doha while deployed in support of Operation Iraqi Freedom. With constraints on organic sustainment force structure, ASG-QA has always relied on contracted logistics; what we all now embrace as operational contract support. The Q-BOSS prime vendor since 2015 has consistently provided exceptional support with a large workforce of mostly other country national contractors that live in and around the city of Doha. It is important to note that

Qatar is a very safe country. In fact, Global Finance Magazine ranked Qatar No. 7 in the 2019 Global Finance world safety index, sandwiched in between Norway and Singapore. Our contractors, DoD Civilians, and command-sponsored Families have always lived on the economy; it is part of the fabric of serving in Qatar. Living on the economy always made sense, until one day it didn't.

Decision Making: Complicated to Complex

The gravity of the situation took hold early in the morning of March 17 when Qatari police cordoned off a massive 32-square-block industrial area adjacent to CAS. COVID-19 had rapidly spread to thousands of other-country nationals in their densely populated housing compounds. See-mingly overnight, ASG-QA no longer had access to its contracted DFAC workforce, food distribution prime vendor, and multiple subcontractors. Col. Stephen Fabiano, commander, ASG-QA, quickly made all Army bases in Qatar off-limits to non-mission-critical personnel (family members, DA Civilians, and contractors) in order to assess the situation and protect the force. With the commander's guidance, Maj. Khadine Quashie, Q-BOSS administrative contracting officer (ACO), temporarily suspended contracted services, based in part on the Sovereign Act. which absolves the U.S. government from liability for damages so long as those acts are "public and general" and not taken merely to avoid contractual obligations. The legal ramifications aside, denying base access to non-mission-critical contractors created second and third-order effects that challenged leaders to rethink their tasks with a renewed sense of agility and resilience. Initially, Fabiano had to balance the risk to force (for which he was responsible) versus the risk to tenant unit missions presented by COVID-19, many of which were not under his purview. As he subsequently recalled, "Fortunately, our persistent efforts over time to foster relationships built on trust with tenant organizations made balancing these competing risks relatively easy."

The U.S. Army Central (USARCENT) operational environment has long been complicated. Frequent deployments, major exercises, and the evolving geopolitical situation across the Middle East has kept

units in the USARCENT footprint constantly engaged. As demanding as these deployments and missions have been, they were manageable because we had templated plans, processes, and systems against each problem set.

In his seminal book *Team of Teams*, retired Gen. Stanley McChrystal distinguishes between things that are complicated and those that are complex. COVID-19 changed the operating environment in Qatar from complicated and routine to complex and largely unknown. McChrystal's thoughts on the nature of change are worth repeating. "Today's rapidly changing world, marked by increased speed and dense interdependencies, means that organizations everywhere are now facing dizzying challenges, from global terrorism to health epidemics to supply chain disruption to game-changing technologies. These issues can be solved only by creating sustained organizational adaptability through the establishment of a team of teams."

An ACO's Perspective

Adopting a Team of Teams approach Lt. Col. Mark Wolf, Q-BOSS lead contracting officer representative (COR), and Quashie drove the contracting change management process across the staff and tenant units. Weekly meetings with Michelle Talbot, Q-BOSS procurement contracting officer (PCO), and the contractor changed to daily battle rhythm events. Quashie issued over 40 ACO/PCO Q-BOSS letters of technical direction (LOTD) which temporarily changed, suspended, or limited services. The LOTDs allowed the ACO to provide direction to the contractor to quickly adapt to changing contract requirements and minimize non-essential contractors, a key metric in mitigating risk to the force. With a reduced contracted workforce, it soon became apparent that we would rely increasingly on organic capabilities; Soldiers ended up temporarily filling the gaps in food preparation and DFAC support, shuttle bus, and water distribution services.

Soldiers Step Up: 'Greening' of Contracted Logistics

Patrons of DFACs outside the continental U.S. can attest to the importance of the other-country national

workforce. But what happens when the majority of those contractors are quarantined for an extended period of time? Sgt. 1st Class Tammy Aea, ASG-QA food service NCO in charge and COR, overcame this challenge with Soldiers. LOTD in hand, Aea reopened the DFAC on March 20 with a limited menu, consolidated kitchen workforce of four contracted food service supervisors and 12 Soldiers, including four food service specialists (92G). Limited food service entailed serving hot meals for breakfast and lunch and issuing meals ready-to-eat for dinner. All meals were served take-out due to capacity constraints and social-distancing protocols. Compounding the situation was the fact that Aea was quarantined for two weeks in downtown Doha upon returning from temporary duty in Germany. Limited food service would remain in effect for the next month.

Contractors Moved on Base to Preserve Logistics Capabilities

At some point the days stretched into weeks and a new normal set in. March became a distant memory; April served as a conduit to May and the return of blistering heat. Summer approached, but there would be no lifting weights in air conditioned gyms, no swimming, and no team sports or physical readiness training for that matter. Parts of CAS took on an eerie feeling of having been abandoned, especially during peak hours of the afternoon sun. Meanwhile, COVID-19 continued to spread on the economy despite the host nation's aggressive efforts and excellent health care system. Other-country national housing compounds became the center of gravity in the fight against COVID-19. As the situation developed, it became apparent that billeting contractors on CAS would help ensure continuity of operations for mission critical functions—the power plant, fire and emergency services, Troop Medical Clinic, plumbing, and electricity. As one can imagine, moving hundreds of contractors on base (for the first time) came with its own set of challenges. Most of the issues that surfaced were common with the rotation of units, such as personal space, privacy, security, quiet hours, Wi-Fi access, cleaning of common areas, etc. Change of any consequence creates friction; moving contractors on base was no different,

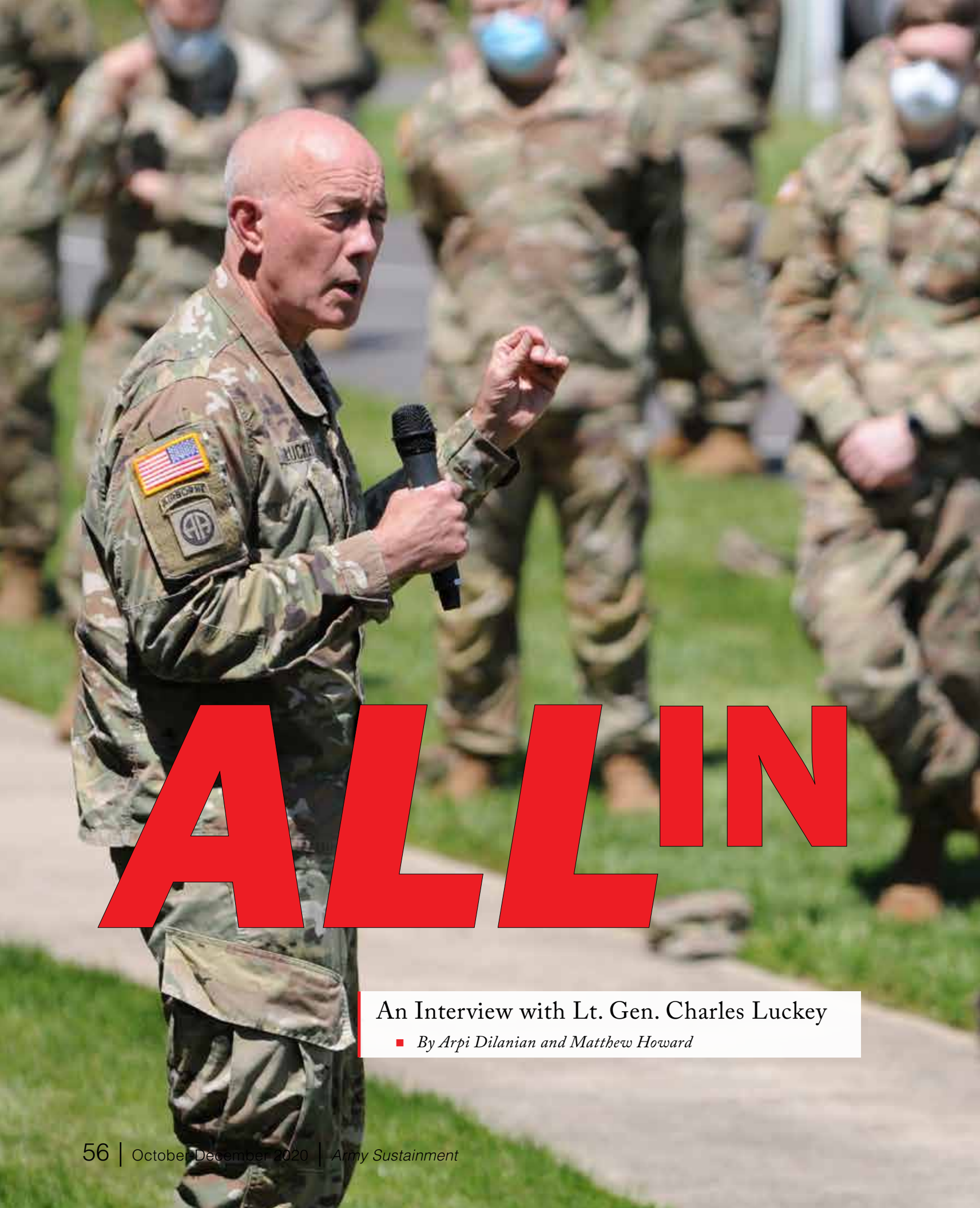
in this regard. Both Soldiers and contractors adjusted to the situation and learned to accommodate each other. Proactive communication and treating people, explicitly, with dignity and respect were essential to this transition. Our appreciation for these contractors grew as they gave up their familiar surroundings in Doha and moved onto CAS for the sake of the mission.

Summary

COVID-19 response changed Q-BOSS in ways that would have been hard to imagine only several months earlier. Contractors who lived on the economy for decades found themselves living on base alongside the Soldiers they served. Soldiers who had grown accustomed to a generous quality of life found themselves in a decidedly more austere environment. Tensions flared as the heat returned with a vengeance and stop-movement orders stretched deployments from 12 to 14 months. Commanders and leaders of all stripes recalibrated efforts with COVID-19 dominating the calculus. Resilient, high-trust relationships among subordinate and tenant units proved indispensable. Agility became a watchword as stakeholders quickly adjusted to a very fluid environment. Full dine-in food service resumed on May 20, nearly two months after the CAS DFAC shut its doors. A brightly colored menu greets patrons near the DFAC entrance, along with the unmistakable smells of grilled steak and crab legs—a favorite meal that servicemembers had grown accustomed to from the days long before COVID-19.

Lt. Col. Mark D. Wolf serves as director of Logistics, Area Support Group-Qatar, Camp As Sayliyah, Qatar since 2018. He has a Master of Science in General Administration from Central Michigan University.

Maj. Rachelle Quashie, a native of Trinidad and Tobago, enlisted into the U.S. Army in 2000 as an automated logistics specialist (92A). Quashie received a commission as a Quartermaster Officer in November 2006. She holds a Master of Science in Management and Logistics Management from Florida Institute of Technology.



ALL IN

An Interview with Lt. Gen. Charles Luckey

■ By Arpi Dilanian and Matthew Howard

Throughout his tenure as Chief of the Army Reserve, Lt. Gen. Charles Luckey fundamentally transformed the way the reserve component saw itself. Since embarking on the ‘Road to Awesome,’ America’s Army Reserve has arrived at a place of operational savvy and mission-focused agility, capable of delivering at the speed of relevance. Just before his retirement after 43 years of service, we sat down to discuss the Reserve’s role in sustaining our force and nation throughout the COVID-19 pandemic.

It’s been two years since we last spoke to you about Ready Force X (RFX). How has the concept advanced?

I don’t think RFX enables readiness in the traditional sense, but rather it helps articulate our current state of readiness in terms of capability and speed. If you looked at the readiness reporting status of Reserve units today versus four years ago, some have gotten better and some worse. Have more gotten better than worse? Probably, but not appreciatively so because the challenge for us has always been the P-level—the manning piece.

We don’t move people into formations; we move structure to people. Unlike the active component, I don’t PCS people. I don’t have the authority to order somebody to fly across the country. If I can’t find and recruit into the formation, that one person who has a certain degree or additional skill identifier, I have to acknowledge I’m missing that critical piece despite a high P-level on paper.

Now that we’ve learned how to RFX ourselves, I can find that person—who may be in a different state—and as soon as I have the legal authority to move them into the manning document, I can mobilize it and, “boom.” While this doesn’t necessarily translate to a statistically-relevant increase in readiness in some reporting document, it has absolutely increased our strategic readiness: the ability to leverage tactical readiness and get it where it’s needed to achieve results.

RFX is about us being able to say, “We may not be where we need to be today, but we can become wicked good here in a week.” How long will it take to put four

engineer battalions on the Korean peninsula, fully ready to go to war? What about moving an intelligence battalion to Europe? Give me 15 minutes and two phone calls and I can answer those questions; I never could have done that four years ago.

How did RFX enable the Reserve’s COVID-19 response?

As the commander of this component, I’m exquisitely aware of all the unique capabilities that reside in it. In some cases, 70 percent or more of everything the Army has in a certain capability set exists inside the Reserve; in other cases, all of it does. And sometimes it’s both: it has to go fast at scale, and nobody else can do it.

Being successful as a commander of 200,000 Soldiers and civilians, spread over 20 time zones, requires incredible planning discipline to be able to find Soldiers and bring them from one organizational design into another. I’m confident we could have never created and deployed our Urban Augmentation Medical Task Forces (UAMTFs) if we hadn’t been working on RFX all this time. Doing so validated our efforts to generate the flexibility and intellectual agility required to reshape ourselves again and again for whatever’s next.

Like a seismic event, you don’t know when it will happen, you just know it’s going to happen. We didn’t know COVID-19 would be the threat; that’s why it’s called “X.” RFX enables us to be ready for whatever the “X” becomes. Some have said, “Luckey’s all about medicine now.” No—we could do the same with engineers, civil affairs, you name it. We’ve learned how to rethink the requirements for the future, then adjust to it quickly.

How are you ensuring combat readiness does not erode across the force?

Driving through Philadelphia on the way back from visiting a UAMTF, we passed the Eagles’ stadium and then the Flyers’ arena. The parking lots were full of brand new vehicles. Nobody was buying cars, yet they kept coming in from the plants. First, it was 20 million people out of work, then 40 million. The one thing we couldn’t let

happen was preventing these Soldiers from getting paid to maintain individual Soldier readiness. They needed the money, and they needed the security, safety, and stability of being associated with this team.

We don't stay in states or communities to train like the National Guard does; we travel. I didn't want our Soldiers moving long distances and spreading contagion from one place to another, nor did I want them coming together in groups unless absolutely critical for a mission. The only way to mitigate those risks was to say, "I'm willing to let you stay home, do your physical training and online learning, and check in regularly with your first-line supervisor." So we've started virtual battle assemblies and our Soldiers are still getting paid.

I'm careful not to be Pollyannaish, but I think we'll be able to sustain that individual Soldier readiness for quite a while. Our ability to maintain collective readiness, however, will be a challenge until we get Soldiers training face-to-face again. But as long as I can keep you physically fit, educated, and individually ready—things I can't make up in three or four days—I can bring you together and collectively get you to a pretty good place quickly.

With RFX, we're all in; we depend on everyone because RFX starts at the individual Soldier level. As we come out of this—I won't say post-COVID, but rather COVID-informed because this will be around for a while—we're going to be okay. I can't say exactly where we'll be in six to 10 months, but RFX will allow us to see how much we've degraded and continue enabling us to communicate how long it's going to take to generate capability from a strategic readiness perspective. A year ago, I might've told you 42 days for an engineer battalion to become fully-capable from the time you say, "Go." Today, that answer might be 47 days but, again, that's something I couldn't do four years ago.

Are you comfortable with our current sustainment force structure balance?

As we talk about the future, multi-domain operations, and the Total Army, that discussion has to include the amount of sustainment capability in COMPO 3. We have

to think through what the Army Reserve can truly support at the speed of relevance to fight a particular operation. What are the critical capabilities we know we must have at the time war breaks out—even before it's started—to set the theater from a sustainment perspective?

When it comes to balancing force structure, I think we've taken reasonable, prudent risk for the fight we've been in. But that same analysis doesn't necessarily hold up fighting an existential war against a peer competitor. Can I forever give you a petroleum platoon, or this or that formation, for Afghanistan knowing I have three or four years to produce it on a patch chart? Absolutely. But to do it at scale against a near-peer who's going to try to sink our supplies and equipment in the ocean before it even gets there? That's a whole different thing, and a conversation that's overdue.

Am I the expert? No, I'm not a sustainer. But as the leader of this component, I'm totally comfortable saying that whatever the Army needs in the way of rebalancing force structure, I'm totally with the Army Materiel Command commander and our Army G-4.

What is next on the Road to Awesome?

On the Road to Awesome, you get banged up a little bit: you win some, you lose some. The key is to just keep moving. What does America's Army Reserve need to do to continue supporting the Army as best and as fast as we can? Play to our strengths and continue to generate capability at speed and at a huge cost savings to the American people.

If we move into a future where there is downward pressure on defense budgets, the size of the regular Army could decrease. If that happens, there may be a conversation about also making the Reserve smaller but that's the wrong way to look at it in my opinion. The time to make the Army Reserve bigger is when you're forced to make the active component smaller.

The Army Reserve is a great place to capture talent coming off of active duty. Most senior leaders in the Reserve didn't start out here. I started out in the infantry and special forces in the active component, went to law school, spent some time in the Reserve, went back on

active duty for five or six years as a lawyer at Fort Bragg, then came back off active duty and into the Army Reserve. But unlike the Guard, our grade-plate structure tends to have more senior billets. As the Army's been growing in recent years, fewer Soldiers have been coming off of active duty because retention bonuses have increased. If we get to a place where the Army must retract, we're probably still going to need that talent but we simply can't afford it—so let's figure out a way to keep it warm. The Army Reserve becomes that catcher's mitt.

Speed is the other reason to grow the reserve component. When you do need to turn capability back on, so long as we're still RFX-ing we can do a lot pretty quickly. I've never advertised that we can fight tonight, but we do fight fast. We have formations that are going to be able to do their job in three days. It's not a great hedge, but it's a pretty inexpensive one—and it's sure better than not having one at all.

The Road to Awesome also includes increasing our presence in what I call "digital key terrain" in America. We're in a competitive space with adversaries who try to influence elections and manufacture chatter in social media to create a perception that everyone is at each other's throats. By creating that impression, people begin to turn on themselves and it undermines our way of life. If that's the game, we have to get good at it.

The 75th Innovation Command in Houston continues to leverage more Reserve Soldiers working in emerging technologies like artificial intelligence, quantum computing, and information operations. In many ways, it's analogous to our formation in 1908. The Reserve was created to augment the Army's combat medical capacity by rapidly leveraging doctors already out there practicing medicine in the civilian world. Just as we maintained that high level of technical efficacy in the medical domain—our UAMTFs are on the frontlines in the fight against COVID-19 112 years later—we're now doing the same with Soldiers that are already wicked savvy in the cyber domain. Some of our cyber- and information warfare-type formations are over 200-percent strength because people are interested and want to be involved. It's a no-brainer to continue growing these areas.

What message do you have for the Army Reserve team in the face of an uncertain future?

I tell our Soldiers all the time, "Of course it's uncertain—it's the future!" But it's our responsibility to shape it. The future isn't something that just happens. Events happen, earthquakes happen, but we bear the responsibility of what the future looks like.

Ownership is critical. Ownership separates adolescents from adults: adolescents tend to blame everyone else for things that aren't right, while adults accept responsibility and own outcomes. When folks in the Luckey household get stressed out, we'll often write down all of the things we're worried about on a piece of paper. As we go through the list, we cross off everything we can't do anything about. Now, that list is only three or four things. What's the plan? Figure out what it is you want to do, and then what you need to do to achieve that effect. It sounds pretty obvious, but it's not an intuitive skill. It takes some discipline, and it probably takes a few life lessons. That philosophy helps you shape the future because you focus your energy into those things you can actually affect.

We have two things most people don't. First: purpose. We have a mission to support and defend the Constitution of the United States of America against all enemies foreign and domestic, and to bear true faith and allegiance to the same. Second: each other. When you're on a team of people who've taken an oath to give up their lives for that idea, that's powerful. The future is going to continue to be hard, but we have a say in what it looks like. Be resilient, be persistent, and keep moving. It's a long road—keep pounding!

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Matthew Howard is a strategic analyst in the Logistics Initiatives Group, Office of the Deputy Chief of Staff, G-4, Department of the Army. He holds bachelor's and master's degrees from Georgetown University.

Featured Photo
Lt. Gen. Charles D. Luckey, Chief of Army Reserve and commanding general, U.S. Army Reserve Command, gives encouraging words to U.S. Army Reserve Urban Augmentation Medical Task Force Soldiers, May 7 at Joint Base McGuire-Dix-Lakehurst, New Jersey, as the UAMTFs return from locations across the nation in response to the COVID-19 pandemic. (U.S. Army photo by Spc. Jahkeem D. Folks)



ALIGNING FOR THE FUTURE

An Interview with Gen. Daniel Hokanson

■ By Arpi Dilanian and Matthew Howard

As the 29th Chief of the National Guard Bureau, Gen. Daniel Hokanson ensures that more than 450,000 Army and Air National Guard personnel are accessible, capable, and ready. A graduate of the United States Military Academy at West Point and an Army aviator, Hokanson previously served as Director of the Army National Guard and 11th Vice Chief of the National Guard Bureau. Just prior to his confirmation to become a member of the Joint Chiefs of Staff, we sat down to discuss the National Guard's evolution for a changing environment.

Can you discuss the National Guard's role in supporting the nationwide COVID-19 response effort?

The National Guard mobilized a peak of 47,000 Guardsmen and women, in all 50 states, 3 territories, and the District of Columbia, to support COVID-19

response operations. Soldiers and Airmen set up testing sites, assisted in long-term or alternate care facilities, and conducted testing operations. Our ability to rapidly mobilize a large number of Guard members showcased the capability and the capacity that resides in the Guard.

This mobilization also highlighted another of our inherent qualities—we are a part of the community. These are Soldiers and Airmen who are helping their friends, neighbors and community members battle a pandemic in the cities they also call home.

In Nashville, for example, the Tennessee National Guard partnered with a major corporation to manage the state supply of personal protective equipment (PPE). The corporation provided warehouse space while National Guard Soldiers provided their logistical expertise to track, allocate and distribute essential equipment to their communities. We were ready and there when our neighbors needed help.

How are you balancing current operations with ensuring readiness and responsiveness for the future?

The National Guard's unprecedented response to the homeland has not diminished the need for Guard forces overseas. Deployments to combat theaters and in support of allies and partners have continued, unabated, throughout this response. At its peak in early June, 120,800 Guard men and women were supporting missions at home and abroad.

The need for support at home has certainly made it more challenging for units to maintain their readiness for wartime missions; however, many units gain valuable training from homeland missions.

U.S. Army Forces Command and 1st Army have provided tremendous assistance in maintaining the readiness of National Guard units throughout this crisis. Additionally, Combat Training Center rotations and weekend drills continue to be critical components in building and preserving combat readiness.

The impact of COVID-19 has also been felt on these training events. Three of our four CTC rotations scheduled this year have been canceled because of COVID-19. Despite this, many Guard units have been able to persevere. The Minnesota Army National Guard's 1st Armored Brigade Combat Team, 34th Infantry Division was able to deploy their entire brigade to the National Training Center and conduct readiness

training immediately after mobilizing 7,000 Guard members in response to civil disturbance missions.

Throughout this unprecedented response, the Guard has been able to rise to the challenge of both requirements, but at a cost. The need to support civil authorities has required considerably more time from our part-time soldiers and airmen, putting additional stress on families and employers. In the long run these concurrent missions will require additional resources from states and from the Department of Defense to ensure the National Guard can continue to be ready for any mission.

How has the Guard continued to recruit in this environment?

Recruiting and retention has been an interesting challenge. Just prior to COVID-19, the National Guard experienced its best recruiting

month in over five years. When COVID-19 set-in, our recruiting was impacted.

In order to adapt and overcome the challenges presented by COVID-19, the National Guard focused on two major efforts: training recruiters with on-going COVID-19 precautions and capitalizing on social media and virtual platforms.

To maintain the requisite number of recruiters, the National Guard developed a 79T (recruiter) distance learning program. We conducted three classes with this model, graduating 550 new recruiters. Despite the challenges, the schoolhouse stepped up and delivered.

The National Guard's unprecedented response to the homeland has not diminished the need for Guard forces overseas. Deployments to combat theaters and in support of allies and partners have continued, unabated, throughout this response.

By adapting and pivoting to virtual training, our newest recruiters focus more on social media and virtual platforms than before. As a byproduct, recruiters developed new avenues of approach to garner interest in the National Guard. I believe the infusion of virtual learning and social media into our recruiting efforts deliver better recruiters and unlocks greater access to potential National Guard recruits.

The adjustments made by recruiters to their training and approaches helped drive National Guard recruitment back up to 97 percent in June.

In what ways is the Guard evolving to prepare for large-scale combat operations (LSCO)?

Combat operations during the last 18 years have focused primarily on brigade and below formations; however, the future fight could involve near-peer competitors and potentially division-level operations.

The Army National Guard has eight divisions within its ranks. In 2019, the Army National Guard developed a plan to align the divisions across state lines, enabling them to be more ready for large-scale combat operations. This plan also supports a comprehensive training plan across the force that will build National Guard divisions able to integrate at any echelon into the Joint Force.

The concept is not new to the National Guard. In 1917, the National Guard deployed 17 divisions in support of WWI and grew to 19 divisions that deployed in support of WWII. By 1950, the National Guard had expanded to 27 divisions—two deployed in support of the Korean War.

Evolving the National Guard in this matter not only supports readiness across the force, it also provides better training and career progression opportunities for service members.

Why is this important?

It's important because the future of the National

Guard needs to adapt to a multi-domain threat. Our current efforts to align divisions within the National Guard facilitates continued relevance within the National Defense Strategy to meet evolving large-scale combat operations (LSCO) threats. Previously, the brigade was our largest organically task-organized formation capable of meeting the LSCO threat.

Division Alignment for Training provides a greater level of flexibility and support for Brigade Combat Teams (BCT). For example, the 41st BCT (ORNG) can be task-organized to the 40th ID (CANG) in support of Maneuver Training Center and Overseas Contingency Operation deployments. This directed alignment process assists in developing and building an enduring system of interoperability and functionality—qualities required to meet our multi-domain threat.

Senior leader development is a fortuitous byproduct of the division realignment process. Generally, Guard Soldiers seldom seek growth opportunities outside of their respective states. This lack of flexibility limits the growth potential of senior leaders within the National Guard.

The Division Alignment for Training concept creates opportunities for identified high performers to serve in positions that may not currently exist in states' Force Structure. By investing in Human Capital Management tied to emergent opportunities, we will continue to build and leverage our growing pool of leadership talent. With a wealth of expanded and diverse windows to excel, we are producing senior leaders capable of answering the call for generations to come.

Arpi Dilanian is a strategic analyst in the Army Logistics Initiatives Group, Office of the Deputy Chief of Staff, G-4, Department of the Army. She holds a bachelor's degree from American University and a master's degree from Rensselaer Polytechnic Institute.

Matthew Howard is a strategic analyst in the Logistics Initiatives Group, Office of the Deputy Chief of Staff, G-4, Department of the Army. He holds bachelor's and master's degrees from Georgetown University

Featured Photo
Lt. Gen. Daniel Hokanson, Director of the Army National Guard, addresses members of C Company, 3rd Battalion, 116th Cavalry Regiment after a reenlistment ceremony where he swore-in three Soldiers at the Woodburn Armory in Woodburn, Oregon, Jan. 12. (U.S. Army Photo)

RIGGED FOR PANDEMIC RESPONSE

Army Parachute Riggers Lend Specialized Skillset to Protect Force from COVID-19

■ By Chief Warrant Officer 3 Viviana Paredes



As national shortages of personal protective equipment (PPE) left thousands of frontline medical personnel and emergency room staff exposed to a deadly novel coronavirus, commanders across the Army's major commands identified a capability within their formations to fulfill the growing demand for life-saving PPE. Armed with sewing and 3D printing capability, U.S. Army parachute riggers were identified as uniquely postured to address the vacuous supply chain. Relying on 'rigger ingenuity,' aerial delivery facilities rushed to action to develop prototypes, mass-manufacture, inspect, and distribute protective masks and face shields.

An aerial delivery facility's mission is to provide personnel and cargo parachute packing, aerial delivery resupply, and air items maintenance to support their organization's airborne mission (aligned across the warfighter functions). In a matter of days, riggers across the U.S. and Germany traded parachute nylon for fabric that met the Center for Disease Control (CDC) guidelines to mirror the N95 mask, which uses nonporous cotton material with a reusable filter to protect against COVID-19, and traded their packing tools for 3D printers to shift from parachute repair and maintenance to the production of masks, gowns, and face shields. Under the oversight from their Corps Level Surgeons Office and utilizing light-duty sewing machine equipment within their military table of organization and equipment, following the common table of allowances (CTA-50-909),

the riggers synchronized their sewing machines to sew 7-11 stitches per inch without damaging the material or allowing for any open pinholes on the mask or keepers (straps around the ears). The riggers also changed the type of thread and materials used to meet medical guidelines. Some of the materials used included post-exchange bedsheets, Army uniform surplus t-shirts, and cotton blends. 647th Quartermaster Company, Fort Bragg, North Carolina, used donated fabrics from North Carolina State University Wilson College of Textiles. Down the street, 188th Brigade Support Battalion utilized 3D printers to produce protective face shields.

With COVID-19 restricting airborne operations, the riggers aimed for an original goal to produce 600 cotton masks a week. An overwhelming sense of duty and friendly competition among the teams fueled an output of 600 masks a day. Many of these masks and face shields were distributed to units and essential personnel across Fort Bragg—the most populated military installation in the country and home of the 82nd Airborne Division and Special Operations Forces.

The masks themselves are simple: cotton and miscellaneous fabric coverings for the mouth and nose fastened together around the head. The masks are not intended to be stand-ins for the Federal Drug Administration-recommended N95 masks. In dire conditions, like those experienced at Madigan Army Medical Center, Joint Base Lewis-McChord (JBLM), Washington,

PPE's additional supplies were a force multiplier to protect essential personnel. Nearby, Seattle was the epicenter for the first U.S. outbreak of COVID-19 and the initial demand signal. Army parachute riggers immediately began to innovate and adjust, developing several prototypes until final approval was obtained from the unit's Surgeons Office, to meet the surge. Working together, the entire rigger community operated as one entity to meet the mission requirements.

Group Support Battalion, 1st Special Forces Group (Airborne), JBLM, employed feedback from medical employees to refine their prototypes for reusable masks, face shields, and surgical masks. As a result, Madigan Army Medical Center and its regional partners continued to receive improved products from the riggers. Each iteration and lesson learned generated practical improvements. Lessons learned also included navigating new processes for material funding requirements, approvals from the brigade surgeon and Army Medical Command, and developing a task distribution matrix. Considerations for the distribution matrix include:

- Location of production
- Needs versus wants
- Safeguarding Soldiers and their Families
- Mask quality vs. mask quantity
- Approval process and acquisition in each mask-making process
- Wear and tear on light duty sewing machines
- How to transition from mask fabrication to real world support requirements

- Shift supervision and safety of production teams from COVID-19
- Managing high risk (for COVID-19 complications) team members

Through these efforts and comprehensive medical research, a standardized prototype was created, a template was designed, and guidance was developed and disseminated to the force. Countless rigger sheds across the Department of Defense adopted and employed these practices to manufacture masks and face shields.

For military installations overseas, producing face masks was not just about protecting personnel and their dependents. It was an opportunity for parachute riggers to engage in good-neighbor diplomacy. At Rhine Ordnance Barracks, Kaiserslautern, Germany, riggers assigned to 5th Quartermaster Theater Aerial De-

livery Company (TADC) produced masks for the 1,300 civilians working at Theater Logistics Support Center-Europe. Thinking outside of the box to meet Army guidelines, the riggers procured subdued-colored bed sheets at the Ramstein and Baumholder exchange stores. Working as a well-oiled machine, 14 Soldiers manned alternating day shifts at Rhine Ordnance Barracks: five riggers operated sewing machines while two Soldiers stenciled and cut fabric. One mask took about ten minutes for the team to produce.

These masks support mechanics, truck drivers, and craftsmen of the mostly German workforce. This assistance proved critical, given that mandated quarantines affecting local fabric manufacturers resulted in a scarce supply of face masks in the area. The opportunity to serve the health needs of the local workforce not only protected the installation but

demonstrated American investment in the German communities that host US forces.

Production Results

Stateside, riggers assigned to the aerial delivery facility at 19th Special Forces Group (Airborne) (19th SFG-A), Camp Williams, Utah, produced 7,015 cloth masks and distributed an additional 6,200 masks to Utah National Guard (UTNG) members throughout the state. These masks were used by UTNG Soldiers while conducting a regular drill, and annual and pre-mobilization training events. The UTNG riggers even sent 200 masks with 19th SFG-A Soldiers charged with safeguarding Washington, D.C., during the civil unrest in the capital region. UTNG riggers spent between 1,000 and 1,200 hours of precise, attention-to-detail fabrication to safeguard their team members' lives during the call to duty.



Spc. Micah Allen and Spc. Laura Barnett, parachute riggers assigned to 1st Special Forces Group (Airborne), Fort Bragg, N.C., assemble face masks during the COVID-19 pandemic. National shortages of personal protective equipment required the U.S. Army to call upon skilled parachute riggers to produce the masks in accordance with guidelines from the CDC and Department of Defense. (Photo by Chief Warrant Officer 2 Josh Hendrax and Master Sgt. Taylor Cathey).

In North Carolina, National Guard riggers assigned to 403rd Quartermaster Rigger Support Team (403rd QM RST) shared similar sentiments pertaining to their support mission. The eight Soldiers assigned to 403rd QM RST broke into two shifts of four Soldiers. To maintain production, they were broken into two shifts maintaining day/night shift integrity and operating as isolated "bubbles." That way, if one team would be down with COVID-19, there was another team to continue the mission. Soldiers were leading a critical mission to the state that loss of personnel due to COVID-19 was not an option. In 31 days, they worked an estimated 60-hours a week to manufacture 4,401 masks in two distinct models for individual comfort (straps and elastic). As the unit progressed with production, and received feedback from the users in the field, there was a clear understanding that a variety of factors—pertaining to visibility, comfort and wearability, and type of job—were going to affect the individual decision to use adequately or not use the face mask. Incorporating this feedback, the riggers developed masks that tied at the back of the head and masks that affix to the head with elastic bands behind the ears. The two designs offered Soldiers the most comfortable alternatives to use the masks.

The masks were then distributed across the state amongst NCNG members directly engaged in health-care, logistical distribution, farming and cropping, food bank distribution support, and many other missions of support to civil authority aimed at

sustaining North Carolinians. When asked about their driving force to push through the long hours, Staff Sgt. Betuel Monje, noncommissioned officer-in-charge for the facility said, "If [guardsmen are] not protected then how can they serve their communities? And how can they help those around them that are also in harm's way by this virus? We are here for them; to protect the protectors."

Elsewhere, riggers assigned to 4th Quartermaster TADC, Joint Base Elmendorf-Richardson (JBER-AK), Alaska, completed their 100% aerial delivery care of supplies in storage (COSIS) mission at Sagami Army Depot, Japan, before transitioning to making cloth masks in support of U.S. Army Japan. An urgent need for increased production in the region as a result of the civilian manufacturer's inability to meet the demand for medical masks necessitated that U.S. Army Pacific (USARPAC) augment 4h QM's mission in theater. Although their home station is in Alaska, Chief Warrant Officer 2 Mervin Terre utilized two days remaining on the COSIS mission to produce masks for USARPAC units stationed in Japan. The masks were produced per the schematics provided from 1st Special Forces Group, but required some augmentation due to material availability, shipping, and board-acceptance requirements to support the local populace. The COSIS team immediately began developing their plans for mask production and training four local Japanese civilian employees to maintain production continuity after the Alaska-based parachute riggers departed the region.

Army parachute riggers across the total force delivered 97,150 masks, 793 face shields, 3,200 disposable pediatric face coverings, and 300 isolation gowns. Additionally, some commands maintain up to 6,000 masks to issue, as required, during sustained operations.

Over 12,000 military and 6,000 civilian organizations were provided PPE produced by Army parachute riggers. At least 26 Active duty, Reserve, and National Guard parachute rigger facilities worked over 7,302 hours in response to the call for help. The well-being and protection of communities, fellow Soldiers, and emergency response personnel became the constant fuel driving the long hours endured.

Chief Warrant Officer 3 Viviana Y. Paredes serves as unit commander and airdrop systems technician for 403rd Quartermaster Rigger Support Team, North Carolina Army National Guard. She is also a Department of the Army Civilian serving as the safety director for 35th Signal Brigade (Theater Tactical), Fort Gordon, Georgia. Paredes has served as an airdrop systems technician and a parachute rigger in units within U.S. Forces Command, U.S. Special Operations Command, and Army Test and Evaluation Command. She has served two deployments in Kuwait and Afghanistan. This article was written while attending her last semester at North Carolina A&T State University, in pursuit of a Bachelor of Science in Environmental Health and Safety. She is simultaneously attending Warrant Officer Intermediate Level Education Course at Fort Rucker, Alabama. She is a graduate of Warrant Officer Basic and Advanced Courses.

Featured Photo
In the wake of the COVID-19 epidemic in Northern Italy, U.S. Army parachute riggers assigned to the 601st Quartermaster Company, 173rd Brigade Support Battalion, 173rd Airborne Brigade sew face mask prototypes made from fabric found in the standard Army parachute system in Aviano Air Base, Italy, April 28. The prototypes are meant to prepare the paratroopers for the mass production of the masks when proper materials arrive. (Photo by Spc. Ryan Lucas)



Spc. Marissa Bell, 92A Automated Logistical Specialist in A Co., 101 Brigade Support Battalion, 1-11D, conducts a put-away of new material into a field pack-up container, according to the planograph storage location. The new items were part of the unit's conversion to the Army's new standard common core authorized stockage list. (U.S. Army Photo)

Supply Readiness

Conversion Impacts of the Common Core Authorized Stockage List on ABCT

■ *By Lt. Col. Angel M. Cardenas, Maj. Michael Johnson, Capt. Stephen R. Haley, and Warrant Officer 1 James L. Copeland*

Proper supply chain management is a catalyst for readiness and directly influences an armored brigades combat team's (ABCT) ability to fight and win our nation's wars. An M1 Abrams tank becomes non-mission capable due to a failed transmission. A replacement is put on order and, being in stock, an immediate release is performed at the supporting supply support activity (SSA) utilizing the materiel release point process. Within hours, that company's combat capability is back at 100%. This success story could have gone differently, dependent on the SSA's organization, processes, use of their Common Core Authorized

Stockage List (CCASL), the supply heartbeat of any brigade combat team.

Purpose and Concept

Army Materiel Command (AMC) began implementing CCASL several years ago to replace the legacy SSA Authorized Stockage List (ASL), creating an identical standard in terms of material, organization, and transportation for all similar brigades across the Army to model. Prior to CCASL, each brigade had autonomy to develop their own ASL dependent on their unit needs. While this was more flexible to unit mission, it decentralized ASL management

and hindered transitions between brigades during combat operations. With the creation of CCASL, AMC created Army-wide familiarity by having identical lines of ASL and containers between armored brigades, increasing the brigade's overall equipment readiness by enabling immediate support to the unit with the right maintenance-significant parts measured through accommodation and fill rates. To ensure the right items were stocked, historical needs of the equipment and parts are analyzed through an authorized-to-forecast (ATF) review and demand analysis to determine which required parts the supporting SSA should keep on

Ensuring dedicated time and deconflicting the CCASL conversion against a tactical setting creates the conditions for a timely and successful conversion.

hand. As consumption occurs for the material items and the safety stock is reached, Global Combat Support System-Army (GCSS-Army) automatically orders the consumed quantity to ensure that the ASL item is always in stock before the next shipment comes in.

History

1st ABCT, 1 Infantry Division (1/1 ABCT), Fort Riley, Kansas conducted its CCASL conversion from August 2017 to June 2018. The impacts were immediately felt as the brigade moved from its non-standardized ASL, of 2,200 lines stuffed into field pack units and steel quadcon containers, to the more versatile, structured, and organized CCASL. The conversion was no simple task. Over 2,000 additional lines were added to the SSA's footprint, each having to be carefully cataloged, organized, and stored. This organization was accomplished through implementation of AMC's planograph—a document that outlined where items were to be placed amongst the storage containers and flat racks. Each of the more than 4,200 lines had to be checked, stored, and updated in GCSS-Army before it could be marked as complete. The planograph also directed the lines be stored in eighteen 20-foot BOH storage containers, each with internal sliding compartments designed for effective organization. Thirty-five Container Roll-Out Platforms (CROPs) were also used for bulk items and major assemblies. A tailored approach was taken to filling the CCASL, due to a backorder of

BOH containers fielding across ABCT formations.

During the conversion, the SSA platoon was only manned at 19 of the 32 authorized automated logistics specialists (92A), due to an exceptionally active permanent-change-of-station (PCS) cycle. 1/1 ABCT mitigated these shortfalls by augmenting the SSA with internal assets and cross training 10 additional personnel from the Distribution Company's Fuel and Water Platoon. On top of the conversion, 1/1 ABCT SSA still processed over 150,000 receipts across three battalion-to-division field-level exercises.

Lessons Learned

The CCASL conversion, multiple field exercises, and continued support to the units presented some of the greatest challenges for the 1/1 ABCT SSA. The first lesson learned was ensuring dedicated time is provided to the SSA to conduct its conversion. If treated with the same mentality of a wall-to-wall inventory—where support is paused except for the most critical items—units will find their CCASL conversion to occur more quickly and with better results. The most significant challenge took place in winter and spring of 2018, when the SSA was fielded 18 BOH containers, and several days later began receiving the 2,200 additional lines of material. This influx of material coincided with a field exercise in March and May 2018, causing the SSA to split its commitments to both brigade support and CCASL conversion.

The second lesson came as the SSA tried to balance expeditionary operations with CCASL creation. The process to put away material continued as the SSA supported the brigade in the field. New material that was received, as well as old material stored in quadcons, were immediately transported forward where it was balanced against the planograph and stored in its proper location. This enabled the SSA to continue to build the brigades CCASL while simultaneously supporting decisive action operations.

The simultaneous support and conversion was a significant source of friction for the SSA that resulted in decreased efficiency and accuracy. Even with augmentation, the SSA struggled to balance all field operations, supply support, and CCASL creation. The time between the two field exercises was heavily maximized by striking a balance between the conversion, providing support to the brigade, Soldiers low-density training, and core competencies. AMC recommends that units converting to CCASL refrain from tactical operations, and rather conduct their support from the rear, utilizing hard-structure facilities while easing into expeditionary support. Units should heed this advice to avoid SSA inaccuracies while balancing Soldier well-being and customer support.

The final lesson of the CCASL was influenced by maintaining the standardization after an ATF was conducted. The brigade's first ATF review was conducted in August 2019, one year after the CCASL

conversion was completed, and resulted in a 500-line increase to the ASL. This review replaced the old demand-analysis process and is used to determine the effectiveness of a unit's ASL while adjusting the stock based on the previous year's trends. Unlike the additional fielding, the line increase was not on the planograph with identified storage locations. This caused friction with the larger intent of a standardized AMC planograph layout that provides predictability, as each increase in the ATF will result in a slightly different CCASL layout. We recommend that efforts be made to laterally communicate the results of an ATF and allow SSAs, or AMC, to develop a new standardized planograph that enables the intent to be continued. If the original 4,500 lines of an ABCT's CCASL is standardized, then the final 500 should be as well.

Conclusion

The CCASL conversion delivered enduring lessons that units should heed as future supply support activities evolve. Ensuring dedicated time and deconflicting the CCASL conversion against a tactical setting creates the conditions for a timely and successful conversion. This action alone sets the tone and mindset for Soldiers to work, and it should be treated in the same regard as any new equipment fielding or major battalion training event. Converting the ASL in a garrison environment reduces inaccuracies while also decreasing the time necessary to put away the items. Units should take caution in ensuring that parts are stored correctly in the BOH contain-

er or flat rack to ensure that all items fit before locking in its location. Finally, SSAs should take an extra measure to ensure that new additions or deletions across multiple locations are standardized by location to ensure the intent of the planograph is met.

1/1 ABCT has had a steady increase in overall readiness since the CCASL conversion was completed. The standardization, ease of access, and accuracy of GCSS-Army storage location has resulted in a consistent 40% increase in accommodation and fill rates. Overall, the CCASL conversion has been beneficial when converted with deliberate staffing and resourcing, the CCASL provides a systematic ability to quickly enable generation of combat power.

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Maj. Michael Johnson is a brigade support operations officer assigned to 1st ABCT, 1st ID, Fort Riley. He holds a Master of Science in Logistics Management from Florida Institute of Technology and a bachelor's of arts degree in political science from Christopher Newport University.

Capt. Stephen R. Haley serves as the company commander for Alpha Company, 101 BSB, 1ABCT, 1st Infantry Division located at Fort Riley. He holds a Bachelor degree in Finance from Oregon State University. He is a graduate of the Logistics Captains Career Course from the Army Logistics University and the Air Assault School.

Warrant Officer 1 James L. Copeland served as the accountable officer for Alpha Company, 101st BSB, 1st ABCT, 1st ID, at Fort Riley. He holds an associate's degree in real estate management from American Military University. He is a graduate of the Warrant Officer Candidate School, Joint Operations Advanced Course, Airborne and Air Assault School.

In March, the Defender 2020 exercise was unfolding in Europe, and we were gearing up to provide support. The Combined Arms Support Command, in conjunction with the Combined Arms Command, mapped out all of the critical logistical nodes from fort to Tactical Assembly Area, and we were on the initial set of observations when our focus began to change. By early April, it became evident that the emerging COVID-19 pandemic would affect all aspects of American and military life.

As we began to shift to the realities of social distancing and implications of the new environment, units and individuals throughout the continental United States (CONUS) found themselves deploying in support of Defense Support to Civil Authorities (DSCA). I found myself in San Antonio, Texas, as part of the U.S. Army North (ARNORTH) headquarters Joint Forces Land Component Command (JFLCC) with duty as the J-4. For the first time, all 10 CONUS Federal Emergency Management Agency (FEMA) regions had declared emergencies, and Northern Command (NORTHCOM) was in support of FEMA's efforts as part of the broader federal response to the crisis in areas as diverse as New York, Seattle, and the Navajo Nation. Over the next six weeks, the team worked through several sustainment challenges as part of the operation.

Setting the Theater in COVID

In the COVID response, setting the theater took on additional

significance and urgency as it directly affected our fellow citizens. Two aspects of this phase of the operation stood out: the first was the challenge of building combat power, and the second was ensuring that we were responsive to changing conditions.

Building Combat Power

ARNORTH's allocated units are primarily in the Army Reserves for the support of DSCA missions. This arrangement can be challenging in regionalized responses during the operation's initial phases; this crisis's magnitude made it especially problematic. The JFLCC worked to set conditions in 16 locations across all FEMA regions as the allocated forces began to mobilize. Active duty units geographically located near affected regions, such as the 593rd Expeditionary Sustainment Command (ESC), helped by leaning forward to support based on informal or unwritten requests. However, both actions were stop-gap efforts until reserve units could activate and deploy to meet the requirements. It was a struggle to build organizational capability, situational awareness, and relationships with local FEMA regions that were key to set the theater at the pace of the evolving mission.

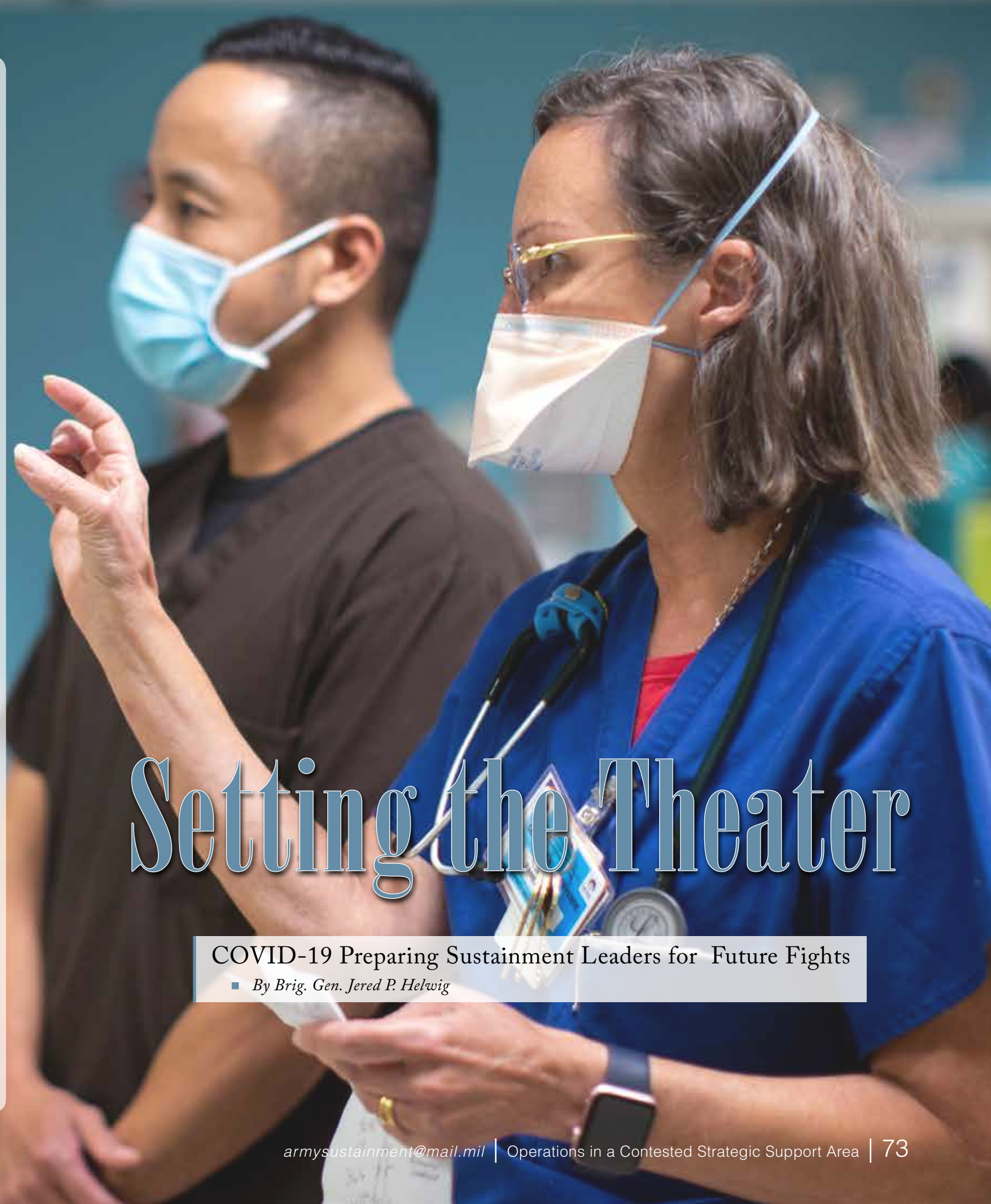
Lesson Learned: Setting the theater requires early entry capability that is immediately available to rapidly deploy and establish a solid base for Joint Reception, Staging, Onward Movement, and Integration (JRSO&I). A tailored capability should be developed at a minimum that is robust enough to create situational awareness for the JFLCC

commander and generate enough momentum to get units quickly through JRSO&I and into the fight.

Responsive to Change

As the nation geared up to flatten the curve, the Department of Defense (DoD) worked with FEMA on military medical providers' criteria to assist with critical capabilities when called upon to support the states. A vital part of the agreement was that DoD forces would relieve pressure on community hospitals by taking non-COVID, low-acuity patients at alternate care facilities. These patients needed a place to recover from non-COVID related illnesses without risking infection and taking up essential bed space at hospitals. The Corps of Engineers designed alternate care facilities inside convention centers or sports facilities at the request of state authorities, and Army Field Hospitals were deployed to staff these facilities. As the units fell in on them, the Army Medical Logistics Command quickly identified, filled, and issued Medical Unit Deployment Packages (UDPs) and shipped them to link up on location to shorten the time needed to reach initial operating capability within the facilities. These UDPs were hugely helpful but were configured for large-scale combat operations and had many items that were not required for the COVID response.

As the situation developed, it soon became apparent that keeping alternate care facilities COVID-free would be nearly impossible and that low-acuity non-COVID patients were deciding not to seek medical



Setting the Theater

COVID-19 Preparing Sustainment Leaders for Future Fights

■ By Brig. Gen. Jered P. Helwig

care due to the pandemic. We built anticipated capability throughout the country, but soon it was apparent this was not the most critical type of assistance required. In response, the JFLCC commander talked to task force commanders on the ground and had the staff work different options. The resulting input and mission analysis pointed toward a change in strategy—the main effort shifted from alternate care facilities to embedding military providers from across the services into existing state facilities to augment their teams and provide much needed relief to the medical staff. The secondary effort was a branch of the first, where military providers would take over a ward or floor of an existing medical facility and run it for the state. Finally, the alternate care facility option would broaden their intake criteria to take COVID-19 positive low-acuity patients (those that had turned the corner and were recovering from the illness).

The first two efforts required that the sustainment enterprise enable life support to providers spread out around the communities, monitor personal protective equipment (PPE) burn-rates of military personnel working in civilian hospitals, and fill shortfalls as they developed. This created distribution challenges as small quantities of PPE and support had to move to multiple locations in a city. The third effort required additional focused attention. What became clear shortly after the transition was that most of the patients recovering from COVID-19 needed more than low-acuity support because the disease was

unpredictable, and their condition could rapidly deteriorate. The higher levels of care meant rethinking the facilities' capabilities—especially for oxygen support. Oxygen generation became a critical limiting factor in the number of beds that could be used. While medical units' kits and UDPs had some capability, it was not nearly enough to meet the demand. Figuring out how to supply more oxygen became the focus of the sustainment community, and eventually, contracts came online that filled the requirement.

Lesson Learned: First, UDPs were timely and essential to beginning mission support. Building at least two types of UDPs in the future might save resources for subsequent waves of COVID. Second, every operation has that one thing that becomes the limiting factor on the critical path to mission accomplishment—the sooner the team can figure it out, the better; no amount of wishing or hoping will make it go away. In other words, once identified, ensure that the team resources it with the maximum amount of organizational energy.

Operational Contracting

AMC's work to operationalize contracting paid huge dividends. We were able to rapidly deploy contracting support to impacted regions, conduct market research, appropriately scope contracts, and scale up contracts as required. Logistics soldiers co-located with contingency contracting officers worked together to ensure commanders' priorities were understood and met. Condition setting and close coordination

between the JFLCC and maneuver commanders ensured that appropriate audibility was in place and that we didn't inadvertently compete against other organizations.

Lesson Learned: Well-coordinated operational contracting is a huge force multiplier when focused on defining and delivering requirements based on understanding the maneuver commander's desired output.

Medical Supply

The medical supply system, which is currently designed to be lean, was not prepared to handle the influx of orders required to supply a pandemic. Unsurprisingly, PPE rapidly shot up in demand as hospitals, the Department of Health and Human Services (HHS), and the DoD competed to find enough PPE for medical providers. This problem was compounded by varying definitions on the proper standard for PPE, what the Force Health Protection Posture Policy was, and how often PPE had to be exchanged—commonly called the burn rate.

Initially, some locations burned through PPE at a much higher rate than others based on differing standards. As Urban Augmentation Medical Task Forces (UAMTFs) and Medical Treatment facilities reported their LOGSTATs through the staff, the forecasting of requirements with varying burn rates became problematic. echelon, and the logistics enterprise collectively struggled with tracking LOGSTATs from the tactical and operational levels. Compounding this issue in reporting was

that local, HHS, and DoD stocks were commingled in many locations. The mission assignment instructions for federal forces typically stated that PPE would be provided locally. Units/augmentees deployed to sites based on that assumption and an over-reliance on the availability of locally provided PPE meant that sustainment units like the 3rd ESC had to adjust rapidly to provide support as that PPE didn't materialize. Defense Logistics Agency (DLA) was responsible for the procurement of medical supplies for all UAMTFs and DoD locations. Still, we quickly found that there was limited visibility of on-hand quantities at the tactical level. The need to gain visibility of what was available, develop common burn rates, and prioritize PPE quickly became the main-effort of the sustainment enterprise—it required daily interaction at the general officer level and largely relied on manual reporting and reconciliation. This fog of war did not begin to clear until the deployment of the DLA Rapid Deployment Team and the Medical Logistics Company. Still, without a common Enterprise Resources Program, the fog never fully lifted.

Lesson Learned: First, Class VIII should be incorporated into GCSS-Army and managed like other commodities to the largest extent possible to provide visibility and a shared understanding through a common record system forecasted and reported through the LOGSTATs. Second, the sustainment community should focus on planning support to regional defense coordinating officers early in the crisis. They work with

federal and state officials to write mission assignment instructions.

Medical Maintenance

As the mission expanded across the country, the JFLCC began to deploy more DoD medical equipment to support the anticipated higher acuity patient load. The equipment was primarily commercial-off-the-shelf, which led to questions about the readiness rates as we tried to anticipate maintenance requirements. For the most part, the equipment remained in good working order, with the majority of the downtime attributed to the calibration required to initialize it and confirm that it was safe to use. That being said, it was fairly uncomfortable because of the lack of visibility available for these systems. A contributing factor was the medical logistics units being some of the last to be activated and deployed. Medical Logistics Companies (once employed) needed to reconcile their books and load devices in GCSS-Army to provide a holistic picture of what devices are on hand—for this deployment, much of the maintenance tracking remained analog. The lack of expertise early in the response and a largely analog process made it difficult to see ourselves.

Lessons learned: First, medical logistics units should have deployed earlier in the Time Phased Force Deployment Data (TPFDD) to give commanders a better picture of maintenance and supply at the various locations. Second, getting all medical equipment entered into GCSS-A must be a priority to ensure

that the maintenance posture is visible and well understood early in any operation.

While the JFLCC support to the COVID fight has subsided, the war against the virus is far from over. The lessons learned about the complexities of setting the theater, operational contracting, medical supply, precise definitions, medical maintenance, and the sustainment network's power will undoubtedly continue as we posture to prepare for the next wave or the next major operation. These lessons and many others will be added to the collective narrative of sustainment as we continue to prepare for whatever the nation requires. Learning, adapting, and growing as an enterprise will ensure that we are ready for the next fight and provide what is required to win.

Brig. Gen. Jered P. Helwig serves as the director of Logistics, Engineering and Security Cooperation for U.S. Indo-Pacific Command and is responsible for the planning, coordination, and integration of strategic Logistics, Engineering and Security Cooperation in support of operations across the Indo-Pacific region. He was commissioned in the Transportation Corps and branch detailed to Armor in 1994 after graduating from Wheaton College with a Bachelor of Arts in Communications. Additionally, he has earned a Master of Science in Public Policy from Georgetown University and a Master of Science in National Resource Strategy from the National Defense University (Eisenhower School). Previous to this assignment, Helwig served as the 30th Chief of Transportation.

Featured Photo
U.S. Air Force Maj. Pamela Curry, a registered nurse assigned to the 60th Medical Group, 60th Air Mobility Wing, deployed from Travis Air Force Base, Calif., briefs a civilian colleague during a shift change in the emergency room Aug. 12 at Los Angeles County + University of Southern California Medical Center in Los Angeles. Curry is deployed in support of the continued Department of Defense COVID-19 response operations. (Photo by Staff Sgt. Crystal Housman)

As an Army engineer for over 40 years, Lt. Gen. Todd T. Semonite knows how to build solutions for any mission. Before assuming his current duties as Chief of Engineers and commanding general of the U.S. Army Corps of Engineers (USACE), Semonite previously established the Army Talent Management Task Force and served as its first director, and was also commanding general for Combined Security Transition Command-Afghanistan. As an integral part of the nation's COVID-19 response, we sat down with him to discuss the Corps' role across the strategic support area.

Can you briefly discuss the Corps' mission set?

For the Army, as Chief of Engineers, I worry about 90,000 combat engineers. Our Engineer Regiment has two two-star commands, 17 engineer brigades, and an engineer battalion in each of the Army's brigade combat teams. In addition to every aspect of military construction and installation support, we also do civil works, which allows us to expand our capabilities as we think about the future and multi-domain operations. Just like the Department of Transportation (DoT) does all of America's interstates, we do all the waterways. If you're driving on I-95 from Maine to Florida, you don't realize you're crossing from North to South Carolina because there's a standard; the roads and signs are all consistent. We do the same for the Mississippi River, for instance, and just lowered New York Harbor five feet to accommodate bigger Post-Panamax ships.

The last piece is the interagency piece, which covers everything from Customs and Border Patrol and Veterans Affairs to Foreign Military Sales and disaster response—and this is where COVID-19 comes into the picture. We have the authority to work for anyone in the interagency; if they come to us with money, we can design a support package. The Federal Emergency Management Agency (FEMA) has 15 different Emergency Support Functions. There's a big conference table and every chair has an assigned seat: Transportation is chair one and owned by DoT, Communications is chair two. USACE sits in chair three: when it comes to anything engineering, it's the Corps. When COVID-19 emerged, that's the authority we worked under.

Can you discuss the Corps' role in the first 75 days of the COVID-19 response?

The biggest piece was developing a concept for getting ahead within the first two or three days. March 18 was a Wednesday. The Governor of New York had appeared on national television each day of the previous weekend repeatedly saying, "I need help; I'm not going to have enough hospitals. I need the Corps of Engineers because they're the only ones that can do this." Most assumed we'd go into a field and build a hospital as we would in Iraq or Afghanistan, assembling together modular, pre-fabricated units.

After watching all weekend, on Monday I said, "We better start getting ready." I got a call from the White House that morning asking to send someone over; that's when the initial Coronavirus Task Force was stood up. I went over that afternoon and quickly realized there was going to be a real problem with bed shortages if we didn't do anything. I briefed Secretary of the Army Ryan McCarthy, and he loaned us an airplane to take my team of expert hospital engineers to the New York state capitol.

We didn't have time to build something in the middle of a field, so our concept was to modify four types of existing buildings into Alternate Care Facilities (ACFs), all of which could be used to treat either COVID or non-COVID patients: hotels, dormitories, sports arenas, and convention centers. Nobody was staying in hotels and colleges were empty; these "small rooms" are easy to contract and relatively similar in design. For field houses, big soccer stadiums, and convention centers "big rooms"—think building out 10-by-10 hospital rooms. How do you put oxygen into those rooms, or a sink on a concrete floor? So we came up with standard, conceptualized designs for each.

The "curve" was a big deal. At the time, all of America was expected to peak around April 24, which gave us about five weeks. But we found every city's curve was different; New York's looks nothing like Reno's. All of our facilities beat the cities' need date. In those first 75 days, we did 1,154 site inspections to see where we

Don't Wait for the Phone to Ring

An Interview with Lt. Gen. Todd Semonite

■ By Arpi Dilanian and Matthew Howard

were going to build, and where municipalities could simply use our standard designs. While we built those 38 ACFs, our concepts and designs were used by states and cities to build out another 36 that provided 12,000 additional beds.

We never wanted an ambulance to arrive at a hospital and be told, “There’s no room, try the next hospital.” We effectively did that by leveraging those standard designs and our local commanders on the ground to proactively help local officials understand the problem set and offer our capabilities.

How is the COVID-19 response preparing us should the homeland come under attack in the future?

Resiliency and redundancy. In the DoD, we’re often guilty of getting rid of a capability if we aren’t frequently using it. We’ve seen this with chemical, biological, radiological, and nuclear capabilities, as well as with artillery—we didn’t use them for 20 years. All of a sudden, you don’t have the capability when you really need it. Don’t wait for the phone to ring. I’ve told my team, “If we think there will be a requirement, I’ve got your back.” The decision maker who’s going to ask isn’t going to know to ask until it’s way too late. Ventilators are a great example. We probably should’ve had many more than we do now, but because we never had to use them, when the budgets got cut somebody said we’ll take risk in ventilators. It’s the same for ammunition: what is the baseline for a basic load of ammo you must have? Is it a waste if it sits on the shelf for 10 years, doesn’t get used, and has to be cycled back out? No, it’s an insurance policy. Do you pass on car insurance just because you haven’t had an accident? No, you still have to make sure you have the capability.

What are the biggest challenges you’ve faced during the response effort?

Mission Command was probably the single most important factor in our response. Understand commander’s intent: mine was to get way ahead of this by going forth and doing great things. All the time I

use the adage, “Give a man a fish, feed him for a day; teach him how to fish, feed him forever.” I brought all of our district commanders together with our technical folks and said, “I want teamwork. As soon as you find a bright idea, call back to the HQ and log it in for the next person building so they’re not starting from scratch.”

Every night, we’d have a big video teleconference to share those ideas. One day it was a solution for Code Blue alarms to ensure crash carts would come when needed; the next it was operating rooms. Every day, the designs improved to the point where we now have a playbook: for any of those four types of facilities anywhere in the country, here’s how you bring oxygen in, here’s how to prevent mixing contaminants as people go in and out, et cetera.

I also delegated approval down to where I had the capacity and competency. When my district commanders went out to their local officials, as soon as they knew they needed a facility it was automatic and construction started; I never even saw the request. My headquarters tracked it but all they needed was approval from FEMA, who paid the bill. This enabled decentralized operations, and our team ran with it.

It goes back to the intangibles of leadership and how you build a culture. For the last four years, I’ve been on a kick to “Revolutionize the Corps”, not “Reform” it. I grew up in a small town in Vermont, and five miles down the road there was a “Reform” school they sent all the bad kids to; that’s not what we’re doing. We are revolutionizing culture, not reforming processes. It’s empowering leaders to anticipate requirements, be willing to take risks, and ruthlessly execute. That doesn’t mean treating people without dignity and respect, or breaking the law; it means understanding the commander’s intent and aggressively working to bring that to fruition.

How does Defense Support to Civil Authorities (DSCA) fit into the mission?

As part of our civil works mission, our Commanders

meet with their state governors every two to three months—more than anybody else in DoD—because we’re out there living in all the states. Our districts are in the nation’s 43 biggest cities, so our commanders already know the mayor and the head of emergency services. When somebody says I need 450 beds, it’s a no-brainer because of that intangible relationship.

The Corps’ headquarters and divisions are centrally funded, but we are a reimbursable command at the district level. They can grow and contract, and don’t have a fixed Table of Distribution and Allowances: a district might be 500 one day, a massive mission comes and they grow to 1,500 for a couple years, then eventually go back to 500. That requires being smart enough to find our people work as the project ramps down, but we are extremely good at moving people around without having a reduction in force. When COVID-19 began, we didn’t quit any of our other missions. Traditional units often don’t have that flexibility.

How is the Corps using lessons learned to posture for potential future waves?

First and foremost, we want to continue building out the playbook. We often utilize Multiple Award Task Order Contracts (MATOCs). Say we’re doing several roofs after a major storm. Instead of establishing contracts with dozens of companies, we’ll award one company a single contract for a group of states, allowing capacity to be built before the storm. We’d then pull the MATOC off the shelf and task order to execute roof construction. We’re doing the same for COVID-19: our contractors already have the standard designs and know what they must be able to bring. If we get more requests for facilities before a second wave might come, why wait and run to the starting line at the last minute? I want to build now and FEMA’s letting us do it.

The other aspect is working through how we deploy ourselves. Think about a quick reaction force (QRF): if we faced an enemy surge on the battlefield, we would launch the QRF. For the Corps, if we have a city about to be hit with a hurricane, we’d normally fly teams in the night before so they’re already on the ground with

generators when it hits. What does that response look like in a COVID-19 environment? How can we make critical elements of our teams more resilient? If we get a limited supply of vaccines, where do we put them to ensure we can complete our missions?

Right now we’re going through a lot of drills assuming we won’t have vaccines. If we plan for the worst-case, we’ll have some breathing room if it turns out to be less severe.

Where do you see the Corps 10 or 20 years in the future?

We have to maintain relevancy, which means continuing to be exceptionally aggressive. The most important thing for the Corps of Engineers is “Delivering the Program”: building a quality facility at or ahead of schedule, at or below cost, and while taking care of team safety and the environment. That means continuing to grow capability and fighting for the best talent.

The USACE Vision is to “Engineer Solutions for the Nation’s toughest challenges”. If America faces a really, really tough mission and we are short on time—think COVID-19—I want the nation to lean on the U.S. Army Corps of Engineers. We’re the largest public engineering organization in the world, but we have to keep getting better. Our nation needs USACE to be “Building Strong.”

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Feature Photo
Lt. Gen. Todd T. Semonite, 54th Chief of Engineers and Commanding General of the U.S. Army Corps of Engineers, speaks to USACE personnel and contractors at one of three barrier construction sites near Lukeville, Ariz., Sept. 10, 2019. (Photo By Sgt. 1st Class Carlos Lazo)



New Norm

An Interview with retired Gen. George Casey

■ By Arpi Dilanian and Matthew Howard

Throughout a 41-year career in uniform culminating as the 36th Chief of Staff of the Army, Gen. George W. Casey Jr. recognized the need for continuous transformation. A graduate of Georgetown University, Casey previously served as commander, Multi-National Force-Iraq, and 30th Vice Chief of Staff of the Army, playing a critical role in leading doctrinal and organizational changes across the force. Here are his thoughts on leading through change and the Army's continued evolution in the face of crisis.

How has the Army adapted since 9/11 to maintain readiness in a changing geopolitical landscape?

The Army has been adapting constantly since 9/11, but it actually started even earlier. Gen. Eric Shinseki, 34th Chief of Staff of the Army, started talking about the need to transform for a different future after the Berlin Wall came down in 1989. When Gen. Peter Schoomaker, 35th Chief, took over in 2003, we started the Army's largest organizational transformation since World War II.

Our efforts on the ground in Iraq and Afghanistan also drove us to adapt and see the future more clearly. Soldiers in the field were being creative and innovating, and over time those lessons were captured and sent back to the Training and Doctrine Command (TRADOC). As doctrine drives everything we do, one of the first things I set out to do as Chief was make Army doctrine more suited to the environments we were increasingly likely to face in the latter part of the 21st century. We published a revised Operations Field Manual (FM 3-0) in 2008, and not surprisingly, it has continued to evolve as we've learned more. Multi-domain operations continue to reflect how our thinking has adapted over time.

It's important we don't take our eye off the threat and its capabilities. Instability is the norm, and as we talk about a return to great power competition, it's important to remember that "great power competition" is going to be very different from World War II or Korea. The fight

will take place in much different domains than the past, and we must remain conscious of that and continue to evolve in new directions. In the environment we're living and leading in today, we have to continuously assess and adapt to stay ahead of the threat.

In what ways must the sustainment enterprise and logistical support to operations evolve?

There's the famous adage about amateurs talking tactics and professionals studying logistics—particularly at the strategic and operational levels, it's the reality. Everything we do with logistics starts with the systems we design and build. We must think about designing systems that are far more fuel-efficient and effective than those upon which we relied in the past.

As we were working on the Future Combat Systems program, we planned for a hybrid ground combat vehicle. This was great in theory, but technology at that time wasn't good enough to operate solely on batteries for an extended period of time. We'd still have to continually run the engines, and to top it off, the vehicle wasn't going to be much more fuel efficient than the M1 tank. There would still be a huge logistical burden. Technology has come a long way, and we need to harness it to reduce sustainment requirements as we design new systems.

We must also be far more creative with technology in preparing our estimates—we've all read stories about how much ammunition we shipped back from Desert Storm. In Iraq, we had constant transit of fuel, water, and supplies, all of which was vulnerable on the roads. With better estimates we can significantly reduce that risk, and that's before you start adding in robotics to remove human drivers from harm's way.

The last piece is looking at doctrine and designing our forces so they're able to support in any environment. If we are going to conduct operations over the long haul, we have to be able to sustain it accordingly. We can no longer assume we're going to dominate any environment or have secure rear-areas, so the structures and processes we design to execute multi-domain doctrine must take that into consideration.

How did the Army respond to the 2009 H1N1 Swine Flu pandemic, and what lessons learned are helping the fight against COVID-19 today?

While Swine Flu was nowhere near the size of today’s pandemic, NORTHCOM had in fact triggered pandemic planning efforts as early as 2006. As President Dwight Eisenhower once said, “Plans are worthless, but planning is everything.” When H1N1 started to break in Mexico and the United States, we had already thought about how we might respond. It was a flu strain we hadn’t seen before and it significantly affected people under 30. When two-thirds of your organization is under 30, you have to make sure you get it right to protect your people.

Through the planning we had already done, we were quickly able to implement intelligent practices that lessened the disease’s spread. While I can’t say we used the term “social distancing,” the things we did—ensuring people stayed home if they were sick, covered their mouths when they coughed, washed their hands, avoided close contact, and touching their faces—are nearly identical to what we’re doing today.

We’re all about accomplishing the mission while protecting our people. As I look at places like Fort Benning, Georgia, with Initial Entry Training, they’re bringing folks in today, putting them in 14-day quarantine, separating those who test positive, and then sending them off to training. The things we did in 2009 are undoubtedly making an impact today. And if you look at countries that had to deal with H1N1 and SARS, particularly Taiwan, Japan, and Korea, they were also better prepared for this pandemic than were others.

What advice do you have for young leaders in leading through a crisis?

We will always be asked to respond to one crisis or another; today is nothing new. From lieutenant to four-star general, the primary responsibility of the leader is to point the way ahead, whether it’s day-to-day operations or a crisis. And in the swirl of our volatile, uncertain, complex, and ambiguous (VUCA) world, that takes courage: you could be wrong and there could be significant consequences, especially the higher you go. So to succeed at any level today, you must have an offensive mindset.

Our doctrine says we use offensive operations of maneuver to impose our will on the enemy. That means having an opportunistic focus on seizing and maintaining the initiative. Our VUCA environment can overwhelm folks. When you’re overwhelmed, it’s harder to act—and to succeed today, you have to act.

How do you build the courage to act in the swirl of events like today? It starts with accepting your humanity. You can’t read people’s minds, nor can you predict the future. I’ve always said there’s only two types of plans: those that might work, and those that won’t work. Because we’re human, the best we’re going to do is a plan that might work. You have to accept that.

As Sun Tzu said, “Enlightened leaders make decisions with a clear mind and a pure heart.” Always do your homework, dive deeply into the issue you’re dealing with, and then make the best possible decision. At every level, be able to look in the mirror and say, “I have the best information available; there’s some things I don’t know but I have to act, so this is how I’m going to do it.” Then take that action with a pure heart. Do it for the right reasons and the good of the organization, not for yourself.

I built on my experience and failures over time—Lieutenant Casey wasn’t quite as successful at decision-making as General Casey—and it was still hard at every level. But if I felt I had made my decision with a clear mind and pure heart, it gave me the conviction that the plan might work, which gave me the courage to act.

As your career progressed, instability increasingly became the new reality. How did your approach to leadership evolve?

I spent 30 years of a 40-year career learning to fight a war I never fought, and the last 10 learning to fight a completely different kind of war while I was fighting it. After 9/11, we were thrust out of the conventional warfare environment we had grown up in, and into something fundamentally new. Throughout my time in Iraq I closely observed our general and flag officers, noticing our existing ways of doing business weren’t preparing them to lead effectively in this kind of environment.

When I got back, I sought to revamp our general officer development training based on these observations. I remember discussing with the Secretary of the Army instructions for the first brigadier general board. He asked what personal characteristics we needed in our generals. My answer? Men and women with vision, courage, and character.

To succeed today, you must have the vision to see around corners, to see something significant about the future that’s not readily apparent to others. You need the courage to act with conviction in the face of uncertainty and risk. And you must have the character to do the right things in difficult times, because only then is your character tested.

I also found we did best when leaders stayed at their level: when I stayed at the strategic level, when the corps commander stayed at the operational level, and when the colonels stayed at the tactical level. Whenever people tried to reach into someone else’s area, we started running into problems. At my level, that meant focusing my efforts on developing and communicating vision and strategy, building the team to execute that vision and strategy, setting the external conditions for success, and preparing the organization for the future. If leaders focus their intellectual

and emotional energy on those four areas, it has the highest payoff for the organization.

You followed your father’s footsteps in answering the call to serve. What did you learn from his example?

I wasn’t necessarily intending to follow in my father’s footsteps. Upon graduating from Georgetown and commissioning, my plan was to do my two-year obligation—which I assumed would include a tour in Vietnam—get out, and go to law school. Things got turned around and I wound up going to Germany instead. I realized how much I loved the Army, so I decided to stay.

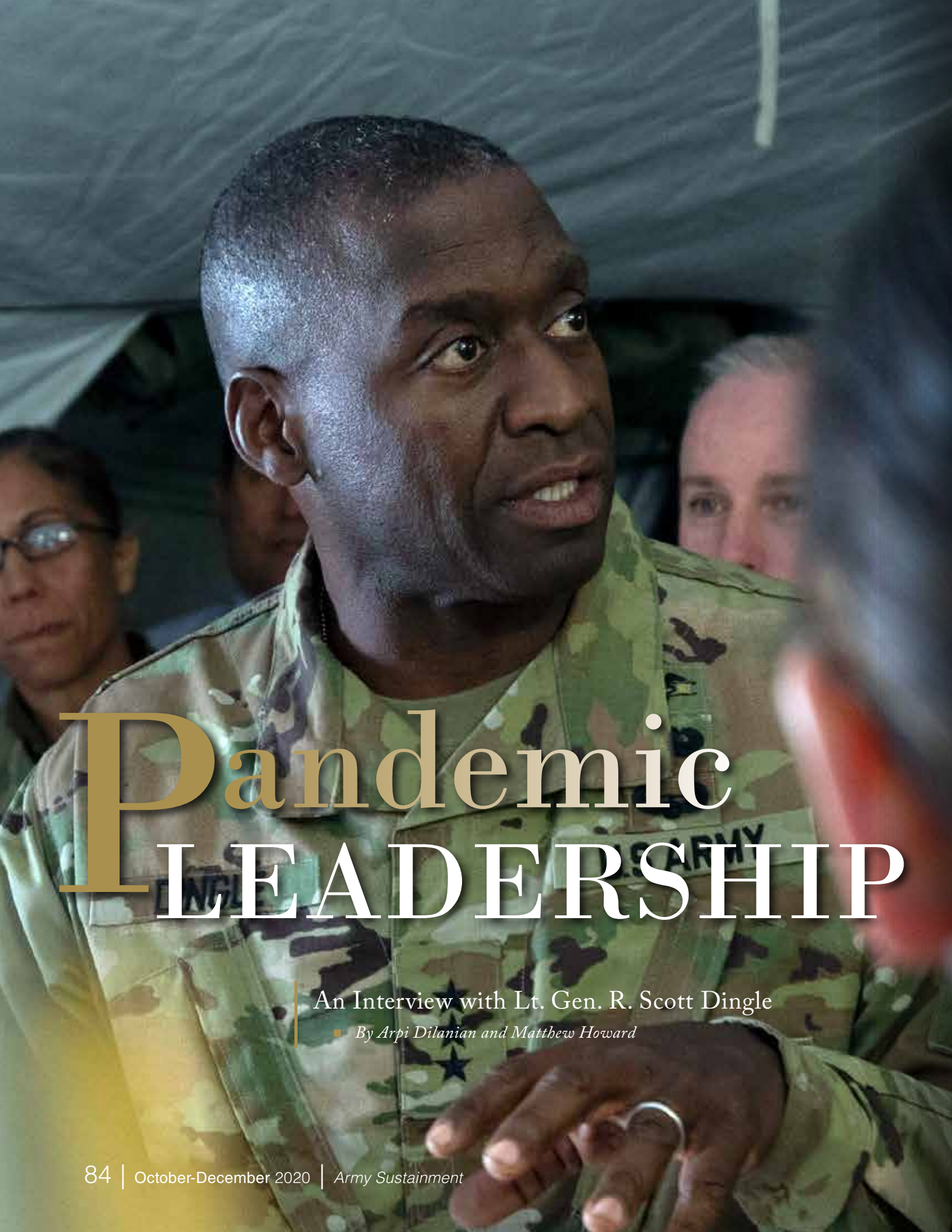
There were two things I brought with me into the Army that shaped the way I led at every level—one from my father, one from my grandfather. My father, captain of the West Point hockey team and very competitive, said, “George, never be afraid to try to be the very best.” It didn’t really stick at first, but the more I grew, the more it sunk in and I tried to make every organization I led as good as it could be. Whether it was an infantry battalion or a mechanized brigade, I realized if you’re always stretching to achieve something that looks to be out of your reach, you have a much better chance of accomplishing it.

My grandfather said, “George, you’re no better than anybody, and nobody’s better than you—so treat everybody with respect but don’t take guff from anybody.” That shaped the essence of my leadership throughout my career. I tried to treat everyone from private to general with respect, but I stood up for what I believed in.

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Feature Photo
Gen. George W. Casey, the Army Chief of Staff, talks with Soldiers during his visit to Forward Operating Base Warrior, in Kirkuk province, Iraq, on Dec. 22, 2008. During Casey's visit, he received the Kirkuk province Operations and Intelligence briefing followed by a Q-and-A session with Soldiers of all ranks. (Photo By Spc. Karla Elliott)



Pandemic LEADERSHIP

An Interview with Lt. Gen. R. Scott Dingle

■ By Arpi Dilanian and Matthew Howard

The Army is taking full advantage of the momentum we have towards building a ready, modernized, multi-domain Army capable of meeting the future demands identified in our National Defense Strategy. As the 45th Surgeon General and commanding general of U.S. Army Medical Command (MEDCOM), Lt. Gen. R. Scott Dingle is at the forefront of those efforts, providing advice and assistance to Army senior leaders on all healthcare matters and our healthcare system during a global pandemic. As the senior leader responsible for the development, policy, organization, materiel development, leadership, and management of the Army's world-wide health service system, Dingle continues to build a medically ready force and a ready medical force, while validating the ability of the medical enterprise to sustain the strategic support area (SSA) during a contested operation.

People and readiness are top priorities for the Army Chief of Staff. How is the Military Health System postured to ensure our Soldiers are ready to train and deploy when called upon?

The mission of the Army is to deploy, fight, and win our nation's wars. To do this, Soldiers and units must first be medically ready. Our initial contribution is ensuring they are healthy, strong, and ready to deploy. Our second contribution is a ready medical force. These medical units support our No. 1 priority: Readiness.

While not a traditional fighting force, our fight is in conserving the Army's fighting strength and sustaining our Soldiers' lives. We do this by ensuring that every health care worker, medical specialty, or unit can rapidly deploy and position itself as far forward as possible to sustain and conserve lives on the battlefield.

The first thing an injured Soldier yells in combat is "Medic!" That first responder has to be trained and ready to save that life. It starts with a ready medical force comprised of medically ready individuals. Returning our Soldiers to duty is our contribution to the force.

Readiness begins with the readiness of our people. What role has MEDCOM and the Army Medical Department played in the COVID-19 response?

We are fighting against a different enemy that is attacking our nation. The Army was called upon to support the Whole-of-Government approach. We first embedded military and civilian professionals that include scientists, doctors, medical planners, logisticians, strategists, and preventive medicine experts into various government organizations such as Health and Human Services (HHS), Federal Emergency Management Agency (FEMA), and multiple COVID-19 task forces.

Secondly, Medical Research and Development Command, under Army Futures Command, has been at the forefront since day one assisting with vaccine development, research, and creating medical countermeasures against COVID-19.

The next piece is our testing capacity. Initially, HHS and the Centers for Disease Control and Prevention stood up testing sites where Department of Defense (DoD) was responsible for 11 testing sites with nine belonging to the Army—a mission new to us as we supported diagnostic COVID-19 testing at those early testing locations.

We were directed to expand capacity within MEDCOM and synergize our effort with the Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology, G-4, and G-3/5/7 to ensure readiness. We expanded from nine to more than 42 testing locations. Commanders expanded their testing capability and capacity through a concerted effort with our strategic and industry partners which resulted in an abundance of capability and newer testing kits. Just before we began initial distribution to our labs, the Presidential Task Force asked us to redirect our resources across the country supporting states, local requirements, and our citizens thereby increasing testing capacity across the country.

We then focused on our Soldiers. Our mission rapidly shifted to conserving the health and building readiness for our hospital units and field hospitals that rapidly deployed to places like the Javits Center in New York City and to Seattle to provide immediate resources to local communities.

Lastly, HHS came back and asked us to expand our FEMA established Field Medical Stations (FMS) which consists of DoD civilian public health medical professionals who primarily support hurricane and emergency responses. We helped modify the FMS by creating an Urban Augmentation Medical Task Force that changed and enhanced the requirements needed to support a pandemic. We modified that original 85-person team with additional nurses and intensive care specialists who were better trained and suited for this particular environment and cross-leveled these skillsets from across the Army.

What are some of the steps we took to ensure the health of our force, both at home and at our installations abroad? Are there any lessons learned from the H1N1 and Ebola pandemics implemented to ensure the safety of our Soldiers as they continued their missions during the COVID-19?

We were able to rapidly pull our “Pandemic Emergency Response Plans” off the shelves to ensure the force health protection of our Soldiers. Our lines of effort were: Prevent, Detect, and Treat. This is not a combat operation in Afghanistan, but instead a medical pandemic operation requiring a synchronized response across the Army.

We quickly learned that the response to COVID-19 is a military operation—the hospitals are military units! During the Military Health System transition of all service hospitals and clinics to the Defense Health Agency (DHA), we were actively attempting to separate health care delivery from readiness with the services retaining readiness and DHA owning health care delivery. However, we now understand that these are inextricably linked and you can’t just separate the two.

In response to the need for medical professionals during the pandemic, can you discuss how we brought back volunteers to serve in military medical treatment facilities where we had vacancies?

Our requirement to support COVID-19 operations forward deployed across the country while also providing critical care to our Soldiers, beneficiaries, and local communities was a tough balancing act for our regional commanders who realized cross-leveling our medical professionals to fill gaps as we pushed our personnel forward would not be enough. We knew the answer was our Retiree Recall program.

Human Resources Command distributed the initial message which garnered over 25,000 responses from retired Soldiers who wanted to answer the call. Once we peeled back the onion, only 6,000 had the medical specialties we required; only 600 were fully capable of supporting this critical mission; and in the end, we put 170 health care professionals back on active duty to support COVID-19 requirements around the world.

Can you discuss the impact of recent reform initiatives across the Army medical enterprise, such as realignments to the DHA, Army Materiel Command (AMC), and Training and Doctrine Command (TRADOC), as well as Theater Lead Agency for Medical Materiel Service responsibility in support of combatant commands operations?

My vision for Army Medicine is captured with my “Five Rs:” ready, reformed, reorganized, responsive, and relevant. Recent reform initiatives across the Army medical enterprise all play into this approach, including realignments to DHA, AMC, and TRADOC.

Army Medicine is now in step with the rest of the Army, and marching in cadence. We nested with the rest of the Army when all of the schoolhouses realigned under TRADOC, and materiel development moved to Futures Command. The logistics piece now falls under AMC and G-4, and we leverage their existing systems and capabilities.

As Futures Command stood up, these cross-functional teams ensured the integration of medical research and development equities underneath one umbrella. The theater lead agents for medical materiel perfectly highlights the power of these reform initiatives. These designated units synchronize medical materiel needs for their respective combatant commands and are fully integrated with other logistics and sustainment enablers in the SSA. We are fully integrated to support multi-domain operations.

The reform piece is the next level. The National Defense Authorization Act is directing us to reform, and the law states what we will do. The management, authority, and control of medical treatment facilities will go through DHA.

We were in the process of transitioning those facilities when COVID-19 hit. In April, we paused to focus on the pandemic.

We are evaluating the transition plan. If there are lessons learned that we need to incorporate from our battle with COVID-19, we will add those and get this right.

You touched on relevancy in the 5 “Rs” and I want to think about the SSA in the future when those supply lines and lines of communication may not necessarily be safe all the time. How is the medical field and force evolving to stay relevant in that operating environment?

The medical field is always evolving to stay relevant. The multi-domain operations concept evolves as

cross-functional teams develop and modernize their portfolios. Army Medicine must remain integrated in order to change with the Army and sustain multi-domain operations.

Being far forward on the battlefield and integrated into those systems and leveraging those capabilities will ensure Army Medicine stays relevant.

Can you discuss current health and wellness initiatives, such as the holistic health and fitness programs, and how they are shaping the Soldiers of the future?

The Army Combat Fitness Test (ACFT) and Holistic Health and Fitness (H2F) are TRADOC-led initiatives. We remain integrated with both initiatives.

H2F is about Soldier readiness and ensuring we have the right mix of specialties to prevent injuries or to help in recovery. Embedding

physical and occupational therapists, dietitians, athletic trainers, and strength coaches will build Soldier readiness. These specialties will help the Soldiers and leaders understand how to properly eat, train, and prevent injuries. Preventing or reducing the high number of injuries primarily resulting from physical training will have a huge impact on Soldier medical readiness.

Our medical professionals from Army Public Health Center continue to advise, assist, and monitor the roll-out as we work to prevent injuries and utilize the H2F concept to rehabilitate and rapidly return those Soldiers to the fight.

The mission of the Army is to deploy, fight, and win our nation's wars. To do this, Soldiers and units must first be medically ready. Our initial contribution is ensuring they are healthy, strong, and ready to deploy.

Army G-4's Go-For-Green initiative directly supports the Performance Triad—the synergy of sleep, nutrition, and activity that enhance Soldier readiness. We want our Soldiers to make wise, healthier choices.

Soldiers must get the right amount of sleep to maximize performance. We have the eating right to fuel the body; we have to increase our physical activity and training to better align with the new ACFT.

You were commissioned into the Army Medical Services Corps, which was a surprise to you. Your career has taken you to assignments historically not served by medical corps officers. What advice would you give to an incoming Soldier in the Army today based on your experiences?

Live your dream, set your goals, and anything is possible. Live above the level of mediocrity. The blessing for me coming in the Army was it introduced me to a team of teams in which the sky's the limit. I can go as far as I can see. I can climb as high as I'm willing to climb. I can run as far as I'm willing to run and nothing can stop me if I have the passion.

From the first time I came in, every day has been the best day. Every unit has been the best unit. Every job has been the best job. Even through adverse times, there was always a rainbow at the end of it. Through the determination of going after your goals nothing can stop you.

I'm the first surgeon general that is a Medical Service Corps officer. I am not a clinician. I am a medical operator, a medical planner, a health care administrator.

The evolution of our talent management system and the leadership of past surgeons general leveled the playing field—they said, “you know what, it's not just going to be a doctor, but it's going to be the best person, the most talented, the best leader, who is going to command our medical companies, our field hospitals,

and become general officers.” As they leveled the playing field, it gave opportunity for nurses, Medical Service Corps officers, dentists, and every specialty to live their dream, to be the best in the show, and that has allowed me to ascend to where I am.

I've been very blessed in my career, a very unique glide path from being the first Medical Service Corps officer to graduate from the School of Advanced Military Studies. I came out of that course not as a medical planner, but as a combat planner and I took that mentality all the way from the 18th Airborne Corps to Afghanistan as part of CJTF-180. I took advantage of every opportunity presented to me by my leadership whether working on Provisional Reconstruction Teams or synchronizing joint and interagency operations with the CIA or FBI.

I have a great team now as the 45th Surgeon General and my story is live your dream, set your goals high, be a professional leader of excellence, and always build synergistic teams to achieve your goals. Nothing can stop you. I'm a guy from Upper Marlboro, Maryland, here as the surgeon general which was beyond my wildest dreams. As a college football and track athlete, I just love leadership, competing, and building teams. Coming into the Army, it was like “wow, this is the same thing.” Then I just set my goals high and lived my dream. Live your dreams, go after it, and have fun.

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Feature Photo
Lt. Gen. R. Scott Dingle, the Surgeon General of the U.S. Army, talks to the medical professionals in the emergency medical tent of the field hospital at Sierra Army Depot, California, during the United States Forces Command Medical Emergency Deployment Readiness Exercise Distinguished Visitor Day, Nov. 4, 2019. (U.S. Army photo)

ARMY SUSTAINMENT

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