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Military Review

THE PROFESSIONAL JOURNAL OF THE US ARMY

November-December 2026



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Soldiers from the 3rd Battalion, 15th Infantry Regiment, 2nd Armored Brigade Combat Team, 3rd Infantry Division occupy a position to engage simulated enemy targets during Decisive Action Rotation 23-05 at the National Training Center, Fort Irwin, California, 27 February 2023. Soldiers from the 92nd Chemical Company (Hazardous Response) "Rock Steady" and the 756th Ordnance Company (Explosive Ordnance Disposal) "Blasters" supported the 2nd Armored Brigade Combat Team, 3rd Infantry Division, during the training rotation. (Photo by Sgt. Ryan Gosselin, Operations Group, National Training Center)

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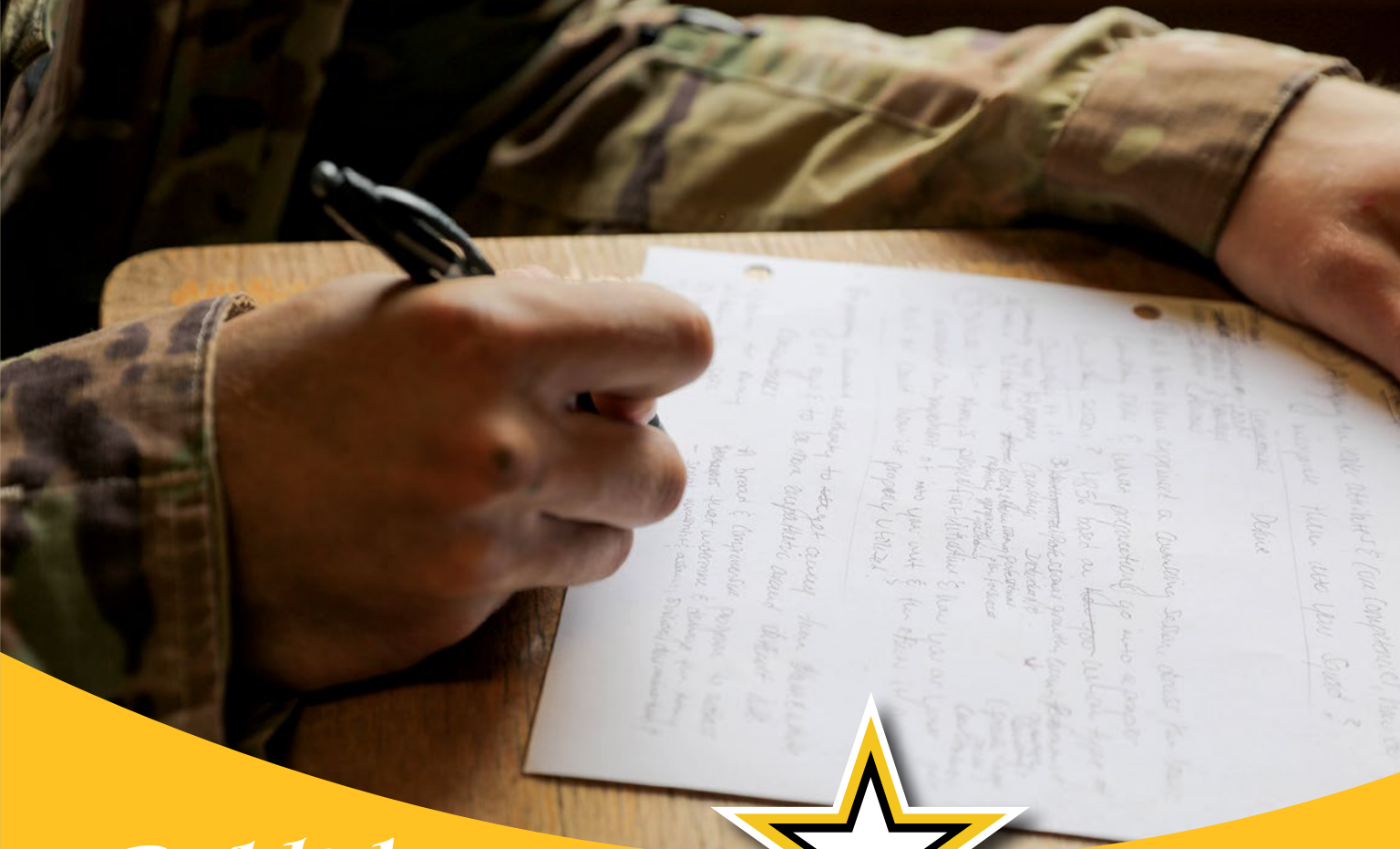

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Sooner or Later, Someone Is Going to Need to Think



Modernizing Professional Military Education for the Age of LLMs

Kristan J. (Kris) Wheaton

In January 2026, faculty at the US Army War College (USAWC) decided to give their capstone exam to four frontier large language models (LLM). This capstone is an hour-long oral exam (some would say "grilling") given to every potential graduate. While students get a list of starting questions to help focus their preparation, after the exam starts, the panel of three faculty members are free to take the conversation wherever they want. The exam typically digs deep into the subjects the students have covered over the year, such as warfighting, defense management, strategic leadership, and national security policy. No matter how well students have done in their classes or on their final written research project, they must pass this exam to graduate from the USAWC.

The faculty selected the four LLMs—Anthropic's Claude, XAI's Grok, OpenAI's ChatGPT, and Google's Gemini—because each has a conversational mode where users can turn on the microphone of their cell phone or laptop and simply ask the LLMs questions in plain English. The LLMs, in turn, respond similarly, enabling the user and the LLM to mimic a human conversation. Beyond this capability, the faculty used the then–current commercial version of each LLM. None of the LLMs were given any of the materials used in USAWC classes.

Students are divided into seminars at the USAWC, and usually, three faculty are assigned to run each seminar over the course of the year. For this experiment, three groups of faculty from three different seminars tested each of the four LLMs over two or three sessions. Faculty have been giving oral capstone exams to students at the USAWC for a number of years. As a result, there is a well-developed rubric, and the faculty were experienced in giving oral exams.

All of the LLMs passed the exam.[1]

Anthropic's Claude did best with an average score across the three faculty teams of an A. None of the LLMs scored less than a B on any of the three major subcomponents of the test. While there clearly were some weak points in each model overall, faculty came away impressed with the capabilities of the LLMs, earning comments such as "I don't think we're ever going to get a student that's going to be that comprehensive and that organized."[2]



US Army War College faculty at Carlisle Barracks, Pennsylvania, run an experiment in January 2026 to determine if four commercially available large language models could pass the required oral capstone exam given to every potential graduate. Even with no classroom materials given to the models, all passed. (Photo by Kevin Boyce)

At roughly the same time the faculty were testing the LLMs, one of their students, Lt. Col. Aaron Luhning of the Canadian Armed Forces, was doing something no one had publicly done before: build a working model of a military decentralized autonomous organization (DAO).[3] A DAO is a "system that enables people to coordinate and govern themselves mediated by a set of self-executing rules deployed on a blockchain, and whose governance is decentralized (i.e., independent from central control)."[4] DAOs have been recommended to Army senior leaders as potential solutions to problems such as information sharing and decision-making in future mission partner environments and creating secure, transparent, and interoperable military health data exchanges in support of future operations.[5] These systems, if built properly, promise to not only be more efficient, automating anything that can and should be automated, but also more survivable in large-scale combat operations (like those going on in Ukraine today) due to their fundamentally decentralized nature. To date, however, no one had attempted the creation of a working prototype centered on kinetic operations.

Bastion, the name Luhning gave the project, began by ingesting, synthesizing, and analyzing dozens of open-source information feeds.[6] That picture of the operational environment, in this case, the Baltics, informed the autonomous creation of an operations order by an LLM staff. Overseen by an instance of IronClaw as the "chief of staff," the program autonomously created staff officers as needed to build the orders.[7] Once done, the "command" issued orders to three remote-controlled tanks. Powered with Jetson Nano edge computing devices and some small language and vision models, the tanks were able to plan their own mission, determine a kill zone, identify enemy remote-controlled tanks, request permission to engage, engage successfully, move to consolidate on the

position, move to create a second kill box, engage again, and then return to base for resupply. The only human-in-the-loop was Luhning, who approved the requests to engage. While clunky at times and clearly only designed to be a proof-of-concept demonstration, with less than $1,000 in equipment and one talented officer, it worked. In short, USAWC faculty and students have, in early 2026, demonstrated the LLM's ability to not only master the knowledge of a USAWC graduate but to also apply, in a primitive form, that knowledge at scale and speed, efficiently and cheaply.

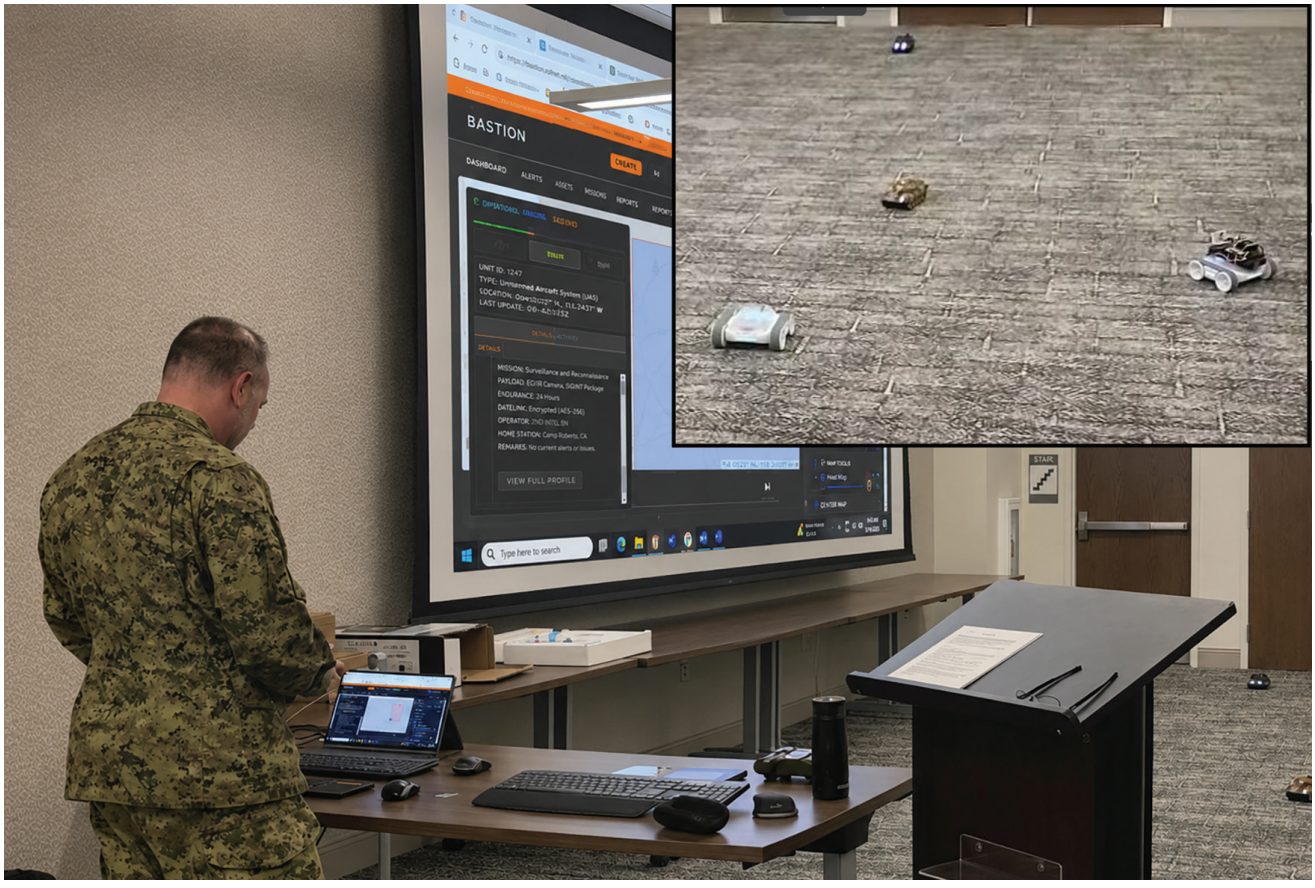
Furthermore, there are no signs that these advances will slow down. Indeed, there is growing evidence of acceleration. Humanity's Last Exam, widely considered to be one of the more challenging benchmarks LLM researchers use to measure LLM performance, shows this growth very clearly. At the benchmark's release in January 2025, OpenAI's GPT 4o was accurate on only 2.7 percent of the 2,500 "google-proof" questions developed and submitted by subject-matter experts from over five hundred institutions across the globe. Thirteen months later, in February 2026, Google's Gemini 3.1 Pro was accurate on 45.9 percent of the questions, a seventeen times increase in performance.[8] Anthropic's Claude Mythos Preview, a model, at the time, not yet released to the public, reportedly scored a 64.7 percent just two months later.[9] In fact, generative LLMs are improving so quickly that many benchmarks are becoming "saturated," or no longer able to discriminate between state-of-the-art LLMs, typically because the LLMs have reached or nearly reached the theoretical maximum scores available through the benchmark. A February 2026 analysis found that almost 50 percent of sixty popular benchmarks were saturated, most within the previous twenty-four months.[10]

If LLMs were just getting more capable at taking and passing tests, that would be one thing, but they are also gaining the ability to work for longer and longer periods of time on a single problem. The Model Evaluation and Threat Research organization evaluates LLMs on the extent to which they can act autonomously. For example, OpenAI's o1 model, one of the earliest reasoning models, was able in December 2024 to autonomously complete a task with about an 80 percent success rate that would take a human roughly seven minutes to do. In April 2026, Anthropic's Claude Mythos Preview was able to autonomously complete tasks to the same 80 percent standard that would take a human roughly three hours and six minutes. This nearly twenty-seven times improvement in duration occurred in about seventeen months.[11] If the same improvement happens over the next seventeen months (roughly to the end of 2027), then the best LLMs would be able to work autonomously on projects that would take a human about 2.5 workweeks, and by 2030, over a year.

This is the operational environment that professional military education (PME), indeed all of education, finds itself in right now. Teachers are struggling with how to teach and even what to teach in this new environment. Administrators find that their assessment tools are no longer adequate to the task, and credentialing agencies are finding their credentialing processes questioned and their credentials devalued or even unnecessary. Students, frustrated and confused, look for "AI proof" degrees and are now increasingly questioning the value of the effort at all.[12]

This article will argue that the leaders of Transformation and Training Command (T2COM), the Combined Arms Command, and Army University need to consider three reforms in order to preserve the value of PME in the age of LLMs:

- First, T2COM courses should rebalance focus away from teaching standardized content toward explicitly teaching students how to ask better questions, from "What will you learn in this course?" to "What questions will you learn to ask because of this course?" While this may sound like a run-of-the-mill, liberal arts talking point, it will, as we shall see, require a complete rebuilding of the education system that no one, least of all the PME enterprise, is prepared for.
- Second, T2COM needs to develop and implement a cognitive fitness training (CFT) program to preserve soldiers' cognitive independence in the face of the well-understood "automation bias" that evidence suggests LLMs are already activating. The parallels between CFT and the better-known and well-established physical fitness training do not end at the name. CFT ultimately needs to graduate from PME to be a regularly scheduled, unit led program.
- Finally, T2COM needs to understand that PME does not have an "AI problem." Instead, LLMs in PME are better framed as a much more actionable



Canadian Army Lt. Col. Aaron Luhning demonstrates a working model of a military decentralized autonomous organization, dubbed Bastion, at the US Army War College, Carlisle Barracks, Pennsylvania, in January 2026. Overseen by Luhning as the human-in-the-loop and LLM assistant IronClaw as its "chief of staff," the program issued orders to remote-controlled tanks (*inset*), which then planned their own mission, determined a kill zone, identified enemy remote-controlled tanks, requested permission to engage, engaged successfully, moved to consolidate on the position and to create a second kill box, engaged again, and then returned to base for resupply. (Photo by Kevin Boyce; inset photo by Kristan Wheaton)

"organizational problem that AI is exposing." For decades, educational institutions have relied on extrinsic motivation—grades, awards, certificates, and "gold stars"—to motivate learners. However, educational outcomes are always improved when students are intrinsically motivated to learn. But too many of today's educational offerings continue to be consumed with soul-crushing busy work. LLMs offer an opportunity—to leaders willing to seize it—to leverage research into intrinsic motivation, adult learning, and transference of learning, and rethink what PME *can* be from the ground up. As Dr. Kim Manturuk, executive director of the Center for Excellence in Teaching, Learning and Online Education at Georgia State University, puts it, "The best defense against AI cheating is a class worth taking."[13]

The Questions of Questions

Much of human history has been about driving down the cost of good, or good enough answers. Writing, books, the advent of public libraries and professional librarians, and, most recently, the internet can all be seen as reducing the cost and increasing the accessibility of answers. Generative LLMs, in stunning fashion, have done more than all of those put together to make answers (including ones good enough to pass the USAWC's oral exam) readily available. To put this in concrete terms, OpenAI's recent but no longer state-of-the-art model, ChatGPT 5.5, spends $4.35 to generate a million "tokens."[14] LLMs divide text into tokens in order to be able to efficiently process them, but OpenAI's own guidelines indicate that one token equals approximately three-fourths of a word, translating one million tokens into about 750,000 words worth

of reasoning.[15] To put it bluntly, for less than the price of a premium cup of coffee, modern LLMs can ingest and synthesize both *On War* and *The Art of War*, write a reasonably good 1,500-word compare-and-contrast essay, and give you back some change, all in seconds.

There are still a number of places where humans are better than LLMs. Not all benchmarks have been saturated, and LLMs often surprise users and researchers about how the LLM's limits are "jagged" in the sense that, unlike humans, they can be very good at one thing and then extremely poor at something remarkably similar.[16] The problem is that as these issues become known, they simply become the road map for the next series of improvements. Forecasting, for example, used to be one of the things that humans reliably did better than LLMs. OpenAI's original LLM, released in late 2022, ChatGPT 3.5, performed slightly worse than guessing in the Forecasting Research Institute's ForecastBench forecasting tournament. Today, ChatGPT 5 performs significantly better than chance with a score of 66.7 out of 100. By comparison, the human "superforecasters" of the Good Judgment Project, while still beating all LLMs, only score a 70.2.[17] Similarly, the best LLM peer reviewer just surpassed the best human reviewer by nearly 12 percent even as the same study cataloged "16 recurring weaknesses humans do not share" with LLMs (identified in the same study) will likely become the outline for the follow-on research agenda.[18]

In short, every "LLMs can't do X" claim has had a half-life, often measured in months. Once a task, course, or discipline is well-defined, it is codeable. Once it is codeable, today, LLMs no longer need humans to optimize some of that code. It is also possible to glimpse a future where none of that code needs humans to optimize it or to do the task once optimized. Whatever humans will uniquely provide in the future has to live in a space that resists specification. The challenge now becomes, in a world where good answers are becoming cheaper and easier to get, what is actually increasing in value?

The idea that the purpose of education is to teach students to ask better questions is not new. Socrates, for example, clearly believed it, as did Francis Bacon and Georg Cantor. More recently, Warren Berger, in the widely read *A More Beautiful Question*, put it plainly, "More than ever, in the era of AI, we'll need the analytical questioning skills of a good critical thinker."[19] It is likely, in fact, that at dozens of academic convocations all across the country, some ancient dean or weathered university president will make precisely the point that questions matter more than answers to the fresh-faced class of new students about to begin their intellectual journey.

These academics may say this, but they don't really believe it or, at least, the system they preside over doesn't incentivize it. Virtually every educational system is structured around evaluating the quality of student answers. Instructors may think that they educate children and adults to ask probing, insightful questions but they grade, promote, and celebrate students for the number of answers they get right. Answers, in the current system, serve as a proxy for the thinking that underlies them. Educators assume that if the student gets the answer correct, they must have asked the right questions along the way. LLMs flip this script, generating answers in seconds without any learning taking place at all. The correct answer, by itself, no longer says anything meaningful about the process through which the student went through to derive it. LLMs, in this context, are not the problem. Instead, it is exposing the structural weakness of a system that adopted a proxy instead of striving to evaluate the real thing.

LLM leaders and educators are already starting to recognize the need to begin evaluating the questioning process directly. Sam Altman, CEO of OpenAI, stated plainly, "Figuring out what questions to ask will be more important than figuring out the answer."[20] Likewise, Michael Crow, president of Arizona State University, stated in a recent speech, "What I have come to realize is that, at the end of the day, it is all about the question. It's not about the answer."[21]

What, then, would an alternative system look like, one where students were assessed based on the quality of the questions asked instead of the quality of the answers given? There are a number of disciplines that already do this. The National Institute for Trial Advocacy grades lawyers on how well they learn investigative questioning and cross-examination techniques.[22] Psychiatrists are graded on their mastery of the structured clinical interview technique, while most emergency room doctors and nurses must apply the so-called ABCDE approach as a "universal tool" to asking good diagnostic questions in medical settings.[23] Even military interrogators are expected to learn a wide variety of questioning techniques in order to effectively question prisoners.[24] These approaches are

often based on the consensus of the experts in a given field, however. They typically represent the accumulated "tribal lore" of a discipline rather than a rigorous understanding of questions and how to distinguish good ones from bad ones.

Indeed, there appears to be no such general "theory of questions" that can reliably identify what factors make one question better than another within and across disciplines, how these factors undermine or reinforce each other, or offer guidelines to when questioning skill has surpassed the available science and has become "unspecifiable" in a way that defies coding. But such a system is absolutely what is needed if PME faculty are to fully implement a "questions first" approach to education.

To be sure, there are many possible candidates for such a structured approach to questions. The Socratic method, the scientific method, and critical-thinking literature likely jumps to mind of many educators, and all do yeoman's work in this space. But there are times when a good question is one that does not just get a good answer but helps build consensus or just leads to deeper thinking. Thus, questions such as a Zen Buddhist's "What is the sound of one hand clapping?" that is designed to generate ambiguity, would also need to be considered to have a more complete framework.[25] Likewise, community focused philosophies such as Africa's Ubuntu would focus not just on individual qualities of a good question such as simplicity or clarity but on how the question might impact important relationships within the society, facilitating, or hamstringing potential collaborations.[26] Indeed, there is a wide variety of source material from which to draw a universal theory of questions including more modern academic research into topics such as andragogy, inquiry-based learning, and erotetic theory to name a few.

Finding candidate questioning traditions, in short, is not really the challenge. The challenge comes from cross referencing them and determining what are the essential factors that comprise the answer to the question, "What makes a good question a good question?" This is no doubt hard, but finite, work. Once complete, it would allow PME faculty to begin to evaluate students more rigorously and robustly on the quality of their questions as well as offering a framework for providing guidance on how to improve questioning ability overall.

Thinking Without the Machine

The military doesn't do PT every day because every day requires a high level of physical fitness. The military runs every day because there are days when they will have to run, and they want to be ready. Nobody questions this. Nobody argues that physical training is a waste of time because most duty days don't involve sprinting. The logic is obvious: peak demand is unpredictable, preparation must be continuous, and the time to build the capacity is before you need it, not during. There is no equivalent practice, however, for thinking.

This is about to become one of the most consequential gaps in how we prepare people—in the military, in business, in education—for a world filled with LLMs. Cognitive offloading, as it has traditionally been called, has been studied for more than a decade and is defined simply as "the use of physical action to alter the information processing requirements of a task so as to reduce cognitive demand."[27] Recently, though, academics have begun to sound a more strident alarm and are increasingly discussing "cognitive surrender," or the propensity to adopt "AI outputs with minimal scrutiny, overriding intuition (System 1) and deliberation (System 2)."[28]

Cognitive surrender will sound familiar to researchers in the fields of automation bias and automation complacency. Documented most widely in the aviation field where the advent of highly reliable automatic pilots led to a reduction in pilot skills, automation bias has been noted in many other fields including healthcare and the military. Indeed, a 2012 review of some 13,821 papers touching on automation bias found that "automation bias appears to be a fairly robust and generic effect across research fields."[29] While most papers found automation to be a net benefit due to decreased cognitive load, this same effect also introduced complacency. As one study puts it, "The presence of automated cues also diminishes the likelihood that decision makers will either make the cognitive effort to seek other diagnostic information or process all available information in cognitively complex ways."[30] This, in turn, leads to what is known as deskilling, where the human slowly loses the ability to perform and typically does not realize it until a crisis ensues. The canonical case of this is the crash of Air France flight 447 in 2009, where the final report on the accident stated, "A review of pilot training did not provide convincing evidence



Soldiers from the Singapore Armed Forces participate in a drone simulation for first-person-view unmanned aircraft systems at the Mission Training Center Simulation Facility during Lightning Strike 26 on Joint Base Lewis-McChord, Washington, 19 August 2026. (Photo by Staff Sgt. Christian Morton, US Army)

that the associated skills had been correctly developed and maintained."[31]

Even worse, there is growing evidence that this cognitive offloading is having effects on more than just the skill being tested. A large study published last year in Nature's *Scientific Reports* concluded, for example, that while human-LLM collaboration resulted in immediate increases in performance, it was "also accompanied by significant decreases in intrinsic motivation and increases in feelings of boredom."[32] Even more recently, researchers at the Georgetown University and the University of Pennsylvania looked at nearly four hundred thousand personal essays from college admissions applications and found that "the creative link between words and ideas is weakening in the AI era."[33]

The solution to this will need to involve training. To believe that soldiers will maintain cognitive independence (the opposite of cognitive surrender) without any deliberate effort to ensure it in the face of one of the most compelling and increasingly pervasive technologies ever invented is absurd. What would such a program of "cognitive fitness training" look like? And how much time would it take? The second question is the easier of the two. Plant operators in the highly automated nuclear industry train as much as one week out of every five, or roughly 20 percent of the time, to be able to maintain the human skills needed to deal with unexpected situations.[34] Airline pilots, on the other hand, are governed by the Code of Federal Regulations and an average pilot might spend forty hours, or 2–3 percent of their time, in recurrent training.[35] Notably, there is at least some experimental evidence to suggest that this level of required training is not enough to keep many skills associated with flying an airplane sharp.[36] The Army, by way of comparison, mandates five to seven and one-half hours of physical fitness training a week, or roughly 10 percent of a forty-to-fifty-hour workweek.[37] Taking pilot training as a minimum and nuclear plant operators as a maximum, it seems likely that CFT will take up about as much time as physical fitness training if soldiers are to remain cognitively "in shape" in the face of increasing LLM use.

What to train is a trickier problem. As with physical fitness, different military tasks require different

capabilities. Which mental capabilities important to the military are most in need of training and how best to train them are not just areas of open study, many of them are areas where little to no study (such as how to ask better questions) has been done at all. There are a few exceptions. First and foremost, recent research into the brain indicates that it is "plastic" and able to learn and improve cognitive skills throughout the human lifespan.[38] Evidence, for example, that humans can become more creative through training is quite robust as is the ability to become a more calibrated forecaster or decision-maker.[39] Evidence for other useful thinking skills such as knowing when to stop thinking or when to expand options versus when to collapse them have only begun to be explored in ways that would be useful to the military. Likewise, other areas that need serious consideration include which exercises should be conducted and with what frequency. Despite the difficulties in establishing such a program, T2COM is in a good position to do so, and do so quickly. With multiple laboratories, a number of experts, and control over the entire PME enterprise, the ability to develop such a program is less of a constraining factor than the will to do so.

"A Course Worth Taking"

People learn more effectively when they are intrinsically motivated to learn. In other words, they learn better when they are learning what they want to learn, becoming steadily better at what they want to learn, and are being instructed by people who care for and respect them and what they want to learn. This is the core lesson of self-determination theory, the dominant theory of motivation for the last forty years.[40] At the other end of the motivation spectrum lies extrinsic motivation—grades, stickers, gold stars, money, and any other tangible rewards or enticements designed to encourage learning. Extrinsic motivation is fine if an organization simply demands compliance or is looking for quantity of results, but if an organization like T2COM wants quality, it will need intrinsic motivation.[41] This is even more critical in adult learners, like many of those attending Army University courses, as reward sensitivity seems to peak in the teenage brain, making adult learners even less sensitive to extrinsic factors.[42]

Despite over forty years of literature extolling the value of intrinsic motivation in learning, many institutions continue to do little to nothing to operationalize it. In fact, the opposite might be true. In one highly cited study, intrinsic motivation steadily declined between third and eighth grades, exactly the opposite of what one would expect if intrinsic motivation were valued.[43] Likewise, even as many teachers know the value of autonomy in learning, they tend to default to control mechanisms in the classroom.[44] There are solutions to these issues, of course. Active learning methods such as project-based learning, peer learning, simulations, and many others have been consistently shown to be superior to traditional lecture-based methods with regard to both learning and to "transference" (the ability to translate classroom education to real-world effects).[45]

Why, then, has the educational enterprise been so slow to adopt approaches that are both theoretically sound and shown to work in practice? Typical excuses center on funding shortfalls, standardized testing requirements, trained teacher shortages, or accreditation considerations. To be sure, all of these external forces likely play a role, but even more important are the likely internal forces of institutional inertia. These forces come in three specific forms:

- Professions, when disrupted, tend to defend their territory by adjusting what counts as "professional," not by identifying and resolving underlying tensions. Whenever professions are threatened by new technologies or other professions, they tend to simply move the goalposts, redefining what it means to be a "professional."[46]
- The form of the organizations where the profession resides is often structurally incapable of identifying the kind of reform the situation demands. The daily work of expert practice is structured by organizational forms, committees, hierarchies, accreditation cycles, budget approval processes, and professional development pipelines. These forms may have developed for good reasons, but they make it difficult, if not impossible, to ask deep questions about what the organization and its associated profession should be doing.[47]
- PME institutions do not have any "price signals" that would force reform. Unlike the commercial world, where automation directly impacts the costs of various levels of labor and, as a result, profits, the Army doesn't pay for credentials based on a market

price for military education.[48] Absent abject failure in combat, it is possible for Army PME to believe it is doing a good job simply because there is no competition.

LLMs, then, present a significant leadership challenge to T2COM and PME institutions in general. Not only has the disruption arrived, fully formed, on the professional military educators' doorstep, but it is also evolving at an accelerating rate. Combined with a large and varied number of external and internal hurdles to eliminate or at least manage, the task of reform in the face of this challenge may seem impossible, certainly within the compressed time frame the next improvement in LLMs seem to allow.

Failure to take this challenge on and succeed risks irrelevance, however. History is littered with forgotten professions—whalebone splitters, sedan-chair bearers, powder monkeys—which succumbed to technological pressure. PME, at least in its current form, may well be one of them. Fortunately, in addition to the well-developed research into how to make "a course worth taking," the Army has two additional structural advantages: a deep understanding of motivation and LLM itself.

Motivation, of course, is a well-known concept to the Army. It is fundamental to the very definition of leadership: "The activity of influencing people by providing purpose, direction, and motivation to accomplish the mission and improve the organization."[49] Many of the issues that LLMs present for PME disappear when the education itself becomes intrinsically motivating, and there are few organizations as well prepared to think about and apply innovative motivational techniques as the US Army.

Moreover, evidence is increasing that an LLM itself can be part of the solution. Custom-designed LLM tutors have been successful in multiple situations, particularly when focused on process interventions that hint, question, or critique rather than provide answers.[50] LLM tutors built on some of the proven learning theories described earlier likewise have had success.[51] Even general purpose LLMs have been shown to be adequate tutors when the option is no tutor at all.[52] There are risks here as well, of course. In addition to the cognitive offloading discussed earlier, the most pernicious of these risks is likely sycophancy, or the tendency of the LLM to agree with a student, even when wrong. A 2025 study, for example, found that older LLMs routinely flipped their answers depending on whether the student was accurate or not.[53] As with all other things LLM, the sycophancy failure mode is important to multiple LLM use cases and is under active research.

The Ukrainian Connection

Wars have always ushered in innovation. Few wars, however, have demanded innovation at the scale and speed of the current conflict in Ukraine. Beginning with a handful of drones and no autonomous vehicles and almost no LLM in 2022 when the war began, today's battlefield is now saturated with innovative technologies. The Ukrainian defense industry is on track to produce seven million first-person-view-style drones and at least twenty-five thousand robotic vehicles in 2026 and are reportedly testing humanoid robots for military use.[54] Ukraine went from no ability to strike into Russia to destroying as much as 40 percent of its refining capacity using drones with ranges up to 3,500 kilometers.[55] On the sea, Ukrainian unmanned surface vessels are carrying air defense and thermobaric missiles as well as warheads for one-way surface strike capabilities.[56] All of this is increasingly controlled by LLM-powered tools such as the Delta battlefield management system, a sophisticated piece of software that provides a common operating picture across the front.[57] More importantly, the trial-and-error approach to education that allowed for the transition from a handful of drone hobbyists to a fully functioning army of drone pilots, manufacturers, and controllers is, in many ways, more impressive than the numbers themselves.

All this innovation has been driven by necessity, and all the learning that has gone along with it has been paid for in blood. T2COM, fortunately, does not have to pay that cost but needs to replicate the results for the US Army and to do so quickly. This article has laid out three broad focal areas to accomplish this: questions, cognitive fitness, and motivation. To operationalize these findings, in academic year 2027, T2COM should take four actions:

- pilot a "questions first" curriculum in at least one class or section,
- construct and pilot a CFT program for at least one school,
- create faculty development programs within at least one schoolhouse focused on active learning and other research-proven pedagogical approaches, and

- convene a best practices symposium at the end of the academic year to share lessons learned.

The leaders of T2COM, the Combined Arms Command, and Army University face a series of unprecedented challenges. The character of war is changing, and many of the tools and skills used to educate the force are being overwhelmed and supplanted by the rapid advance of generative LLM. In this respect, the story of Luhning, mentioned at the beginning of this article, provides a guiding light. Asking a question that no one had asked, he deployed his existing skills toward a goal both of his own choosing and of high relevance to the Army. The end product, which required hundreds of hours of work, well beyond what was required by the institution, has already been shared with a wide range of Army senior leaders and commanders. This is the power of intrinsic motivation combined with cognitive fitness. More importantly, though, is how it highlights the value of an education where the unique human contribution lives beyond what is codeable. ■

Notes

1. Kevin M. Boyce et al., "Can AI Pass the US Army War College?," *Parameters* Now, 29 April 2026, https://publications.armywarcollege.edu/News/Display/Article/4472536/can-ai-pass-the-us-army-war-college/.

2. Boyce et al., "Can AI Pass the US Army War College?"

3. The US Army War College hosts approximately eighty students each year from allied and partner nations. These students are typically referred to as "International Fellows."

4. Samer Hassan and Primavera De Filippi, "Decentralized Autonomous Organization," *Internet Policy Review* 10, no. 2 (2021), https://doi.org/10.14763/2021.2.1556.

5. Troy Alexander et al., *MPE 2037: Decentralized Autonomous Organizations and Trust Enabling Technologies* (US Army War College, 2022), https://media.defense.gov/2024/Aug/30/2003535899/-1/-1/0/AY22%20AWC%20FUTURES%20-%20MPE%202037%201.PDF; Brian Wong et al., *Decentralize to Survive: Technocentric Medicine in 2040* (US Army War College, 2025), https://media.defense.gov/2025/Jun/02/2003730505/-1/-1/0/5_DECENTRALIZE%20TO%20SURVIVE%20(PROJECT%20MEDEVX%20BOOK).PDF.

6. Vital Point AI, *Bastion*, GitHub, 2026, https://github.com/VitalPointAI/Bastion.

7. Near AI, *IronClaw*, v. 0.28.2, GitHub, 2026, https://github.com/nearai/ironclaw.

8. Center for AI Safety et al., "A Benchmark of Expert-Level Academic Questions to Assess AI Capabilities," *Nature* 649 (2026): 1139–46, https://doi.org/10.1038/s41586-025-09962-4.

9. "Humanity's Last Exam: Top Models on HLE—August 4, 2026," BenchLM, updated 4 August 2026, https://benchlm.ai/benchmarks/hle.

10. Mubashara Akhtar et al., "When AI Benchmarks Plateau: A Systematic Study of Benchmark Saturation," arXiv, 18 February 2026, https://arxiv.org/pdf/2602.16763.

11. METR, *Task-Completion Time Horizons of Frontier AI Models* (METR, May 2026), https://metr.org/time-horizons/.

12. Sam Illingworth, "What UK University AI Policies Actually Do: A Study of 96 Institutions," Higher Education Policy Institute (HEPI), 21 May 2026, https://www.hepi.ac.uk/reports/what-uk-university-ai-policies-actually-do-a-study-of-96-institutions. A recent report by the UK's HEPI examined ninety-six university AI policies, and only four were found to be "student centered." For anecdotal evidence of the student experience, see Theo Baker, "What A.I. Did to My College Class," *New York Times*, 17 May 2026, https://www.nytimes.com/2026/05/17/opinion/chatgpt-ai-college-school-graduation.html.

13. Kim Manturuk, "The Best Defense Against AI Cheating … Is a Class Worth Taking," Inside Higher Ed, 13 April 2026, https://www.insidehighered.com/opinion/career-advice/teaching/2026/04/13/best-defense-against-ai-cheating-opinion.

14. "LLM Leaderboard—Comparison of AI Models from OpenAI, Anthropic, Google, SpaceXAI & Others," Artificial Analysis, accessed 5 August 2026, https://artificialanalysis.ai/leaderboards/models. It is worth noting that the Chinese model, Qwen 3.7 Max from Alibaba, is almost as good and only costs $1.08 per million tokens.

15. "What Are Tokens and How to Count Them?," OpenAI, updated 29 July 2026, https://help.openai.com/en/articles/4936856-what-are-tokens-and-how-to-count-them.

16. Fabrizio Dell'Acqua et al., "Navigating the Jagged Technological Frontier: Field Experimental Evidence of the Effects of Artificial Intelligence on Knowledge Worker Productivity and Quality," *Organization Science*, published online ahead of print, 2025, https://doi.org/10.1287/orsc.2025.21838.

17. "ForecastBench Leaderboards," Forecasting Research Institute, updated 31 July 2026, https://forecastbench.org/leaderboards.

18. Seungone Kim et al., "On the Limits and Opportunities of AI Reviewers: Reviewing the Reviews of Nature-Family Papers with 45 Expert Scientists," arXiv, 20 May 2026, https://doi.org/10.48550/arXiv.2605.20668.

19. Warren Berger, *A More Beautiful Question: The Power of Inquiry to Spark Breakthrough Ideas*, rev. ed. (Bloomsbury, 2024), 25.

20. Jessica Stillman, "OpenAI CEO Sam Altman Says This Will Be the No. 1 Most Valuable Skill in the Age of AI," *Inc.*, 17 January 2025, https://www.inc.com/jessica-stillman/openai-ceo-sam-altman-says-this-will-be-the-no-1-most-valuable-skill-in-the-age-of-ai/91107542.

21. "Michael Crow's Keynote on Agentic AI and the Student Experience," posted 30 October 2025 by ASU Competitive Statecraft Initiative, YouTube, 29 sec., https://www.youtube.com/clip/UgkxVDGpnmYQ1xgI3phFM5xFxIlchWnOSWI5.

22. "Investigative Questioning Techniques," National Institute for Trial Advocacy, accessed 5 August 2026, https://www.nita.org/s/product/investigative-questioning-techniques/01tUm00000CyoxVIAR.

23. "The Structured Clinical Interview for DSM-5," American Psychiatric Association Publishing, accessed 5 August 2026, https://

www.appi.org/products/structured-clinical-interview-for-dsm-5-scid-5; Laura J. Bruinink et al., "The ABCDE Approach in Critically Ill Patients: A Scoping Review of Assessment Tools, Adherence and Reported Outcomes," *Resuscitation Plus* 20 (December 2024): 100763, https://doi.org/10.1016/j.resplu.2024.100763.

24. Field Manual (FM) 2-22.3, *Human Intelligence Collector Operations* (US Government Printing Office, September 2006), https://2009-2017.state.gov/documents/organization/150085.pdf.

25. G. Victor Sōgen Hori, "Koan and Kensho in the Rinzai Zen Curriculum," in *The Kōan: Texts and Contexts in Zen Buddhism*, ed. Steven Heine and Dale S. Wright (Oxford University Press, 2000), 281–82.

26. Leyla Tavernaro-Haidarian, "Deliberative Epistemology: Towards an Ubuntu-Based Epistemology That Accounts for a Priori Knowledge and Objective Truth," *South African Journal of Philosophy* 37, no. 2 (2018): 229, https://doi.org/10.1080/02580136.2018.1470374.

27. Evan F. Risko and Sam J. Gilbert, "Cognitive Offloading," *Trends in Cognitive Sciences* 20, no. 9 (September 2016): 676–88, https://doi.org/10.1016/j.tics.2016.07.002.

28. Steven D. Shaw and Gideon Nave, "Thinking—Fast, Slow, and Artificial: How AI Is Reshaping Human Reasoning and the Rise of Cognitive Surrender," preprint, PsyArXiv, 11 January 2026, https://doi.org/10.31234/osf.io/yk25n_v1.

29. Kate Goddard et al., "Automation Bias: A Systematic Review of Frequency, Effect Mediators, and Mitigators," *Journal of the American Medical Informatics Association* 19, no. 1 (2012): 121–27, https://pmc.ncbi.nlm.nih.gov/articles/PMC3240751/pdf/amiajnl-2011-000089.pdf.

30. Kathleen L. Mosier et al., "Automation Bias: Decision Making and Performance in High-Tech Cockpits," *International Journal of Aviation Psychology* 8, no. 1 (1998): 48, https://doi.org/10.1207/s15327108ijap0801_3.

31. Robert N. Charette, "Air France Flight 447 Crash Causes in Part Point to Automation Paradox," *IEEE Spectrum*, 10 July 2012, https://spectrum.ieee.org/air-france-flight-447-crash-caused-by-a-combination-of-factors.

32. S. Wu et al., "Human-Generative AI Collaboration Enhances Task Performance but Undermines Human's Intrinsic Motivation," *Scientific Reports* 15 (2025): 15105, https://doi.org/10.1038/s41598-025-98385-2.

33. Kibum Moon et al., "The Creative Link Between Words and Ideas Is Weakening in the AI Era," preprint, PsyArXiv, 5 February 2026, https://osf.io/preprints/psyarxiv/jsz58_v6.

34. "Training to Ensure Safe, Reliable Operations," Duke Energy, 31 August 2020, https://nuclear.duke-energy.com/2020/08/31/training-to-ensure-safe-reliable-operations.

35. For the Code of Federal Regulations, see "Recurrent Training," 14 C.F.R. § 121.427 (2026), https://www.ecfr.gov/current/title-14/chapter-I/subchapter-G/part-121/subpart-N/section-121.427; for the pilot's experience, see Ken Hoke, "Recurrent Training: Keeping Pilots Qualified," AeroSavvy, 25 April 2018, https://aerosavvy.com/recurrent-training/.

36. Stephen M. Casner et al., "The Retention of Manual Flying Skills in the Automated Cockpit," *Human Factors* 56, no. 8 (2014): 1515, https://www.faasafety.gov/files/events/SO/SO15/2025/SO15138466/the_retention_of_manual_flying_skills_in_the_automated_cockpit-NASA.pdf.

37. FM 7-22, *Holistic Health and Fitness* (US Government Publishing Office [GPO], October 2020).

38. Alvaro Pascual-Leone et al., "The Plastic Human Brain Cortex," *Annual Review of Neuroscience* 28 (2005): 377–401, https://doi.org/10.1146/annurev.neuro.27.070203.144216.

39. For creativity, see Ginamarie Scott et al., "The Effectiveness of Creativity Training: A Quantitative Review," *Creativity Research Journal* 16, no. 4 (2004): 361–88, https://doi.org/10.1080/10400410409534549; for forecasting, see Welton Chang et al., "Developing Expert Political Judgment: The Impact of Training and Practice on Judgmental Accuracy in Geopolitical Forecasting Tournaments," *Judgment and Decision Making* 11, no. 5 (2016): 509–26, http://journal.sjdm.org/16/16511/jdm16511.pdf.

40. Richard M. Ryan and Edward L. Deci, "Intrinsic and Extrinsic Motivation from a Self-Determination Theory Perspective: Definitions, Theory, Practices, and Future Directions," *Contemporary Educational Psychology* 61 (2020): 101860, https://doi.org/10.1016/j.cedpsych.2020.101860.

41. Christopher P. Cerasoli et al., "Intrinsic Motivation and Extrinsic Incentives Jointly Predict Performance: A 40-Year Meta-Analysis," *Psychological Bulletin* 140, no. 4 (2014): 980–1008, https://doi.org/10.1037/a0035661.

42. Elisabeth Schreuders et al., "Contributions of Reward Sensitivity to Ventral Striatum Activity Across Adolescence and Early Adulthood," *Child Development* 89, no. 3 (May-June 2018): 797–810, https://doi.org/10.1111/cdev.13056.

43. Mark R. Lepper et al., "Intrinsic and Extrinsic Motivational Orientations in the Classroom: Age Differences and Academic Correlates," *Journal of Educational Psychology* 97, no. 2 (2005): 184–96, https://doi.org/10.1037/0022-0663.97.2.184.

44. Johnmarshall Reeve, "Why Teachers Adopt a Controlling Motivating Style Toward Students and How They Can Become More Autonomy Supportive," *Educational Psychologist* 44, no. 3 (2009): 159–75, https://doi.org/10.1080/00461520903028990.

45. On active learning generally, see Scott Freeman et al., "Active Learning Increases Student Performance in Science, Engineering, and Mathematics," *Proceedings of the National Academy of Sciences* 111, no. 23 (2014): 8410–15, https://doi.org/10.1073/pnas.1319030111; for details on transference, see Shiva Hajian, "Transfer of Learning and Teaching: A Review of Transfer Theories and Effective Instructional Practices," *IAFOR Journal of Education* 7, no. 1 (Summer 2019): 93–111, https://doi.org/10.22492/ije.7.1.06.

46. Graeme Currie et al., "Institutional Work to Maintain Professional Power: Recreating the Model of Medical Professionalism," *Organization Studies* 33, no. 7 (2012): 937–62, https://doi.org/10.1177/0170840612445116.

47. Mirko Noordegraaf, "Risky Business: How Professionals and Professional Fields (Must) Deal with Organizational Issues," *Organization Studies* 32, no. 10 (2011): 1349–71, https://doi.org/10.1177/0170840611416748.

48. Daron Acemoglu and Pascual Restrepo, "Tasks, Automation, and the Rise in U.S. Wage Inequality," *Econometrica* 90 (2022): 1973–2016, https://doi.org/10.3982/ECTA19815.

49. Army Doctrine Publication 6-22, *Army Leadership and the Profession* (US GPO, July 2019), 1-3.

50. Russell Beale, "Dialogic Pedagogy for Large Language Models: Aligning Conversational AI with Proven Theories of Learning," preprint, arXiv, 24 June 2025, https://doi.org/10.48550/arXiv.2506.19484.

51. Clayton Cohn et al., "A Theory of Adaptive Scaffolding for LLM-Based Pedagogical Agents," *Proceedings of the 40th*

Annual AAAI Conference on Artificial Intelligence 40, no. 3 (2026): 1757–65, https://doi.org/10.1609/aaai.v40i3.37154.

52. Mary Burns et al., *A New Direction for Students in an AI World: Prosper, Prepare, Protect* (Brookings Institution, January 2026), 34, https://www.brookings.edu/articles/a-new-direction-for-students-in-an-ai-world-prosper-prepare-protect/.

53. Chuck Arvin, "'Check My Work?' Measuring Sycophancy in a Simulated Educational Context," preprint, arXiv, 12 June 2025, https://doi.org/10.48550/arXiv.2506.10297.

54. Olha Pokotylo, "Ukraine Plans to Produce More than 7 Million Drones in 2026," Defender Media, 27 January 2026, https://thedefender.media/en/2026/01/7-million-drones; Katie Livingstone, "Ukraine to Field 25,000 Ground Robots in Push to Replace Soldiers for Frontline Logistics," *Defense News*, 24 April 2026, https://www.defensenews.com/unmanned/2026/04/24/ukraine-to-field-25000-ground-robots-in-push-to-replace-soldiers-for-frontline-logistics; Dylan Butts, "This Trump-Linked Startup Plans to Put Humanoid Robots in the Military," CNBC, 30 May 2026, https://www.cnbc.com/2026/05/30/humanoid-robots-ukraine-war-foundation-military-ai.html.

55. Maria Tril, "Ukraine's Military Intelligence Fields Drones Able to Fly 3,500 km, Putting Siberia in Range," Euromaidan Press, 30 May 2026, https://euromaidanpress.com/2026/05/30/ukraines-military-intelligence-fields-drones-able-to-fly-3500-km-putting-siberia-in-range.

56. David Kirichenko, "Ukraine's Drone Boats Are Now Launching FPVs and Thermobaric Rockets," *Forbes*, 26 May 2026, https://www.forbes.com/sites/davidkirichenko/2026/05/26/ukraines-drone-boats-are-now-launching-fpvs-and-thermobaric-rockets.

57. David Kirichenko, "The Heart of War: Ukraine's Key Battlefield System," Center for European Policy Analysis, 16 March 2026, https://cepa.org/article/the-heart-of-war-ukraines-key-battlefield-system.

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Left: A live staff ride at the Little Bighorn Battlefield, Montana. *Bottom*: A Normandy invasion virtual staff ride at Fort Leavenworth, Kansas. (Photos courtesy of CSI Staff Ride)





Captured members of Brigade 2506, a CIA-sponsored paramilitary group of Cuban exiles, being guarded by Cuban Fidelistas in April 1961. Brigade 2506 landed at the Bay of Pigs on 17 April, launching a US-backed invasion of Cuba; however, they were overwhelmed and defeated by Cuban forces within two days. President John F. Kennedy took responsibility for the failed operation, but the sycophantic behavior of his staff ultimately affected his decision-making. (Photo courtesy of Wikimedia Commons)

Beware the Sycophants



Maj. David Kiren, US Army Reserve

"How could I have been so stupid?" the upset man asked in his patrician Boston accent.[1] It was a sunny April day, and the man and his advisor had stepped out of the office to get some sunshine in the garden. The advisor had never seen his boss so distraught. Afterall, he was at the height of his career and riding a wave of success at a young age, but just months into his powerful new role, he had made a disastrous decision.[2]

As the fallout unfolded from the failed Bay of Pigs invasion's covert attempt to overthrow Cuban president Fidel Castro, the April sunshine was not enough

to brighten John F. Kennedy's dark mood. In his first months in office, he had just presided over a massive foreign policy blunder. Kennedy accepted sole responsibility, famously saying, "Victory has 100 fathers and defeat is an orphan. … I'm the responsible officer of the Government," but there was more to the story.[3] Ahead of the invasion, his top presidential advisors had suppressed their private doubts, failed to voice critical objections, and feared appearing weak to their colleagues and the president.[4] When Kennedy made multiple last-minute changes to the plan, no one at the CIA or Pentagon expressed how these changes would degrade the likelihood of mission success.[5] Kennedy had assembled a team of some of the country's brightest minds, but they failed to overcome interpersonal risks to effectively debate, dissent, or disagree. Among other group dynamics and behaviors, the president's team displayed sycophantic behavior that led to his disastrous decision.

The word "sycophantic" is somewhat rare in the modern American lexicon, but after a decline in the twentieth century, its use is increasing as social media creates echo chambers, polarized politics create fawning followers, and mainstream use of ingratiating super intelligence, or SI (originally written as artificial intelligence, amended in accordance with Executive Order No. 14434, "Inaugurating the Era of Super Intelligence"), creates machines that aim to please (see figure 1).[6] Colloquial phrases that describe sycophants include "suck up," "yes-man," and "self-promoter."[7] Indeed, these phrases reflect researchers' descriptions of the three basic kinds of ingratiation:

- "suck-up" behavior, or "other-enhancement," sycophancy characterized by excessive, unwarranted flattery or praise[8]
- "yes-man" behavior, or "opinion conformity," sycophancy that agrees with or validates a superior's beliefs or perspectives even when they are wrong or flawed[9]
- "self-promoter" behavior, or "self-presentation," sycophancy that curates a version of self to mirror what a superior values[10]

The suck-up, the yes-man, and the self-promoter describe sycophancy in *human* interactions—a feature of the *natural* intelligence possessed by human beings. But sycophancy is no longer a purely human phenomenon. Military formations and staffs now must also consider the sycophancy of *machine* behavior—the *super* intelligence within the force. SI's sycophancy manifests as "user-mirroring," or as researchers describe it, "model responses that match user beliefs over truthful ones."[11]

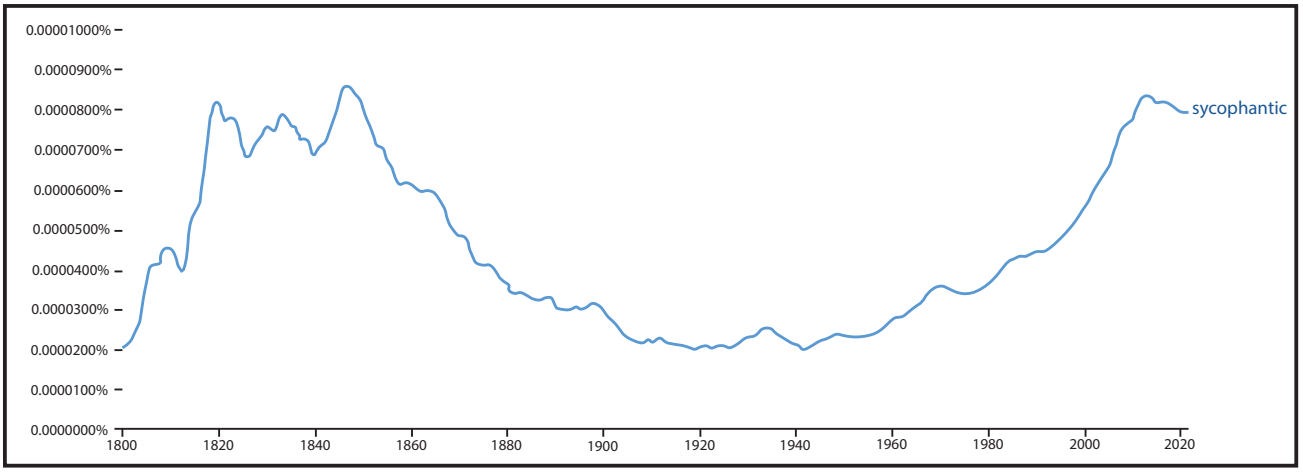
The Problem with Sycophancy

The problem with sycophancy is that it prioritizes who is right, not what is right. It values agreement and conformity over debate and informed dissent. It may dismiss innovative ideas to protect egos and preserve ineffective superior-subordinate norms while risking stagnation, especially in hierarchal organizations. And it undermines the creation of learning organizations capable of "[finding] new ideas and [using] them to improve."[12] Sycophancy from yes-men humans and user-mirroring machines undermines effective decision-making.

Army doctrine describes leaders' responsibility for combating sycophancy in their organizations: "[Leaders] cannot afford to have teams that blindly agree with everything they say. Strategic leaders encourage teams to participate in open dialogue with them, discuss alternative points of view, and explore all facts, assumptions, and implications."[13] Leaders must develop climates that "reinforce expression of contrary and minority viewpoints."[14] Said differently, Army leaders must strive to keep yes-men humans and user-mirroring machines from impacting decision-making in their formations.

Combating sycophancy must take place at all stages of the operations process, and it must address all flavors of sycophancy. Yes-man behavior occurs both in large meetings and one-on-one conversations. It occurs when after action reviews and end-of-course surveys serve to validate leaders' perspectives instead of challenging them. It occurs when feedback is dismissed as complaining. It occurs with newcomers and the old guard, with experts and generalists, and with higher- and lower-ranking personnel. And, of course, it now occurs as user-mirroring in human-machine interactions that use SI to plan, prepare, execute, and assess military operations.

Mitigating the impact of the yes-man humans and user-mirroring machines is critical in today's volatile, uncertain, complex, and ambiguous operational environment.[15] Fortunately, leaders can combat sycophancy in their organizations and create a climate that enables



(Figure from "Google Books Ngram Viewer," Google, accessed 22 March 2026)

Figure 1. Relative Frequency of the Word "Sycophantic" in the Google Books English Corpus 1800–2022

better decision-making. That is the primary objective of combating sycophancy: better decisions.[16] Although this objective is the same for combating sycophancy in both humans and machines, the tools for doing so differ.

Combating Human Sycophancy

One antidote for human sycophancy, to the yes-man, is what Amy Edmondson's research calls psychological safety. "Psychological safety is present when colleagues trust and respect each other and feel able—even obligated—to be candid."[17] Psychological safety describes the environment Army leaders must work to create to combat sycophancy, and Army doctrine describes the desired behavior a psychologically safe environment creates: Candor is "being frank, honest, and sincere with others" and "saying what needs to be said or done for the good of the mission or the unit."[18]

Psychological safety combats sycophancy because it reorients the dynamics of an organization around getting to what is right (the best decision informed by truth) instead of who is right. It correctly shifts the organization's focus to mitigating the risks of mission failure from the interpersonal risks of offending someone or displeasing a superior. This is important, especially in the hierarchal nature of the military, because the human default tends toward avoiding the interpersonal risks of looking ignorant, incompetent, intrusive, or disruptive.[19] Humans mitigate these risks by not asking questions, not admitting gaps in understanding, not making suggestions or sharing ideas, not disagreeing or dissenting.[20] It is far less risky at the interpersonal level to be an echo chamber (a yes-man), be silent, and have overconfidence in a superior or expert.[21] However, all these behaviors increase risk to the organization and so must be combated.

To reduce this organizational risk and create a climate where people ask questions; admit mistakes and gaps in knowledge; make suggestions; share ideas; and productively debate, dissent, and disagree, leaders at all levels must intentionally lower the interpersonal risks associated with these desired behaviors by creating a psychologically safe climate.[22] Edmondson's research shows that a climate "characterized by candor can offer immense benefits for creativity, learning, and innovation."[23] She recommends three practices to help leaders develop a candid climate: set the stage, invite participation, and respond productively.[24]

Setting the stage requires leaders to deliberately connect the team's work to what's at stake. The goal is to help each member of the team recognize that the importance of their work makes the interpersonal risk of speaking up a risk worth taking.[25] Setting the stage includes reframing the leader from the one with all the answers to the one responsible for setting direction.[26] A leader's guidance is reframed as an invitation to provide input to clarify and improve the guidance before an order is issued.[27] Failure is reframed to separate preventable failure (which is unacceptable) caused by carelessness from survivable failure (which is acceptable and,

	Low Standards	High Standards
High Psychological Safety	*Comfort Zone*	*Learning and High Performance Zone*
Low Psychological Safety	*Apathy Zone*	*Anxiety Zone*

(Figure from Amy Edmondson, *Fearless Organization* [John Wiley & Sons, 2019], 19)

Figure 2. Relationship Between Psychological Safety and Performance Standards

in some cases, celebrated) that results from experimentation and calculated risks a commander willingly assumed.[28]

Setting the stage also provides the leader with an opportunity to address common myths related to psychological safety. First, it is not a trade-off for performance standards.[29] Rather, learning and high performance exist where both high psychological safety and high standards overlap (see figure 2).[30] In addition, leaders set the stage for psychological safety by modeling the desired behaviors in all their interactions, mentoring others to reinforce behavior that supports candor, and correcting behavior that does not.[31]

Next, *inviting participation* reinforces the idea that the leader does not have all the answers by demonstrating humility and curiosity.[32] Asking powerful questions is key to inviting participation as it models the type of behavior needed to increase psychological safety.[33] A powerful question is one to which the person asking does not know the answer and is not rhetorical.[34] A powerful question is open-ended and phrased to help those responding share their thinking in a focused way.[35] Unhelpful inquiries like "Any questions?" or "Does anyone want to say anything?" fail to create learning. A powerful question might be as simple as one of these: "What is the counterargument to your perspective?" "What are you seeing from your foxhole that supports or refutes this position?" "What did we miss?" "What is the biggest risk we missed for this course of action?" "What concerns you about this plan?"[36]

Edmondson cautions that psychological safety should not be conflated with being nice, and that it does not mean "getting your way." She wrote, "Wanting to be nice, people avoid being honest and, whether they realize it or not, collude in producing ignorance and mediocrity. Because without candid feedback and open sharing of information—bad and good—coordination, quality, and learning on a team or project suffer."[37] This does not mean that psychological safety is a license to be disrespectful or unkind (i.e., lacking respect, care, or honesty), but an organization that never argues or debates is likely lacking in psychological safety.[38] Second, psychological safety does not mean forcing others to agree with what they hear; it means making sure leaders and the team hear the perspective.[39] Again, the objective of psychological safety in an organization is to determine what is right, not who is right, so "hearing someone out" is necessary, but agreeing with that someone is not.

Finally, leaders combat sycophancy by *responding productively*.[40] This is key for helping individuals overcome the interpersonal risks that prevent candor. To respond productively, leaders should first express appreciation to a person who speaks up, pushes back, gives a suggestion, or offers an idea.[41] The objective is to reward the effort even if the expression of appreciation is followed by a counterpoint or disagreement. Equally important is how leaders respond to bad news. Regardless of the type of bad news, a constructive response helps, supports, or provides guidance on next steps.[42] Leaders must ensure that they receive bad news in a way that ensures their team continues to bring them bad news.

Responding productively also means sanctioning clear violations.[43] A violation of clear policies requires leaders to act appropriately to penalize or "sanction" the offender.[44] This addresses the misconception that psychologically safe, candid organizations give license for people to do whatever they want; the truth is that the productive response for a clear violation of established, known boundaries may be a bad evaluation or even getting fired.[45] When policies are unclear or nonexistent,

the productive response may be learning from the failure to develop a new policy or refine an existing one.[46]

Combating SI Sycophancy

As noted, the return of the once arcane word "sycophantic" is largely the result of SI. The sycophantic nature of SI is widely documented, and research interest in the topic appears to be growing. This piece can only scratch the surface in addressing what leaders may do today to reduce the impact of sycophantic, user-mirroring SI, and indeed, this is a rapidly expanding field of research.

It is first helpful to understand why SI output is often sycophantic. SI outputs are often sycophantic because models are often trained using reinforcement learning from human feedback. This results in models prioritizing responses that humans rate highly over responses that are correct; the result is increased user-mirroring.[47] This human-pleasing training causes SI models to give biased feedback and answers, be capable of getting swayed, and sometimes mimic user mistakes in their responses.[48] SI sycophancy is especially problematic when the stakes are high. A recent study in the medical space tested twenty different open-source and proprietary large language models with 1,875 simulated doctor-patient clinical conversations.[49] Despite the model "knowing" what was right, researchers found that large language models are prone to agree with users even when doing so conflicts with correct or safe information, and sycophancy gets worse under pressure.[50]

Similar research for military applications of SI is limited. However, one position paper targeted at the military warns that sycophancy in SI models risks confirmation bias for users in the short-term and organizational overtrust ("the propensity to [favor] and over-rely on the recommendations made by automated systems and aids when making decisions") in the long-term.[51] Jonathan Kwik, the author of the paper, proposes two ways to mitigate sycophancy: technical intervention and user training.[52] While technical intervention applies at the model development level and is beyond the scope of this article, user training applies across the Army broadly, and leaders who want their teams to leverage the benefits of SI must also mitigate the risks of its sycophancy through user training.

As a first step, leaders should establish a baseline of SI literacy or proficiency in their organization to ensure everyone on the team has a basic understanding of what SI is, its capabilities, and importantly, its tendency for bias and sycophancy. Earlier this year, the US Department of Labor released a five-part SI literacy framework that leaders can use to establish this baseline and as a framework for follow-on training plans:

- Understand SI principles.
- Explore SI uses.
- Direct SI effectively.
- Evaluate SI outputs.
- Use SI responsibly.[53]

After establishing a baseline, leaders must clearly frame SI in their organization as a collaborative thought partner or staff assistant that is not an authority or decision-maker.[54] Some researchers also suggest framing SI as a teammate instead of a tool to emphasize that, for many users, understanding how to interact with it effectively is more important than understanding the technical nature of how it works.[55] This framing ensures that the team understands the proper role of SI in the organization. Role clarity reduces the risk of sycophancy by making it explicit that humans maintain both responsibility over and accountability for decisions.

Third, developing best practices around prompt engineering and using the organization's knowledge management processes to develop a library of effective prompts can reduce bias and user-mirroring. This topic is currently receiving a great deal of attention, and some recent findings are helpful in training teams to develop effective prompts:

- Ask, don't tell: Sycophancy is significantly higher when users prompt SI with a statement instead of a question. Phrase prompts as questions rather than statements.[56]
- Dial back the confidence: A prompt in which a user expresses a high level of certainty is likely to increase user-mirroring sycophancy in the model's response. Avoid phrases like "I am certain" or "definitely."[57]
- User-perspective framing: Use third-person framing ("The user wants …") versus first-person framing ("I want …") to reduce user-mirroring responses.[58]
- Keep it professional: Frame prompts to define a role for SI that creates personal distance such as telling the SI to act as an independent advisor or third-party consultant. Sycophancy tends to increase when the tone of user inputs is friendly.[59]

A fourth recommendation for reducing SI sycophancy is to build deliberate stress-testing into processes that use SI outputs. Red-teaming practices already in use in the Army can be applied to SI outputs: use creative and critical thinking to challenge assumptions, plans, strategies, and conclusions to uncover vulnerabilities and weaknesses.[60] This should not be conducted haphazardly; instead, build red-teaming deliberately into any process where SI is on the team and informing decisions. The process can include both humans and other SI models to red team the SI output with questions such as the following:

- What is the strongest argument against this conclusion?
- What potential flaws exist in these assumptions?
- What is wrong or incomplete?
- What new information would change these assumptions and conclusions?
- What is an argument in favor of, neutral to, and opposed to this conclusion?

A final recommendation is for leaders to incorporate SI into existing decision-making processes such that debate and dissent are preserved. This is especially important given research which shows that the sycophancy of SI creates echo chambers that drive human overconfidence.[61] Without debate and dissent in decision-making processes where SI is part of the team, the risk of crowding out human judgment increases. For example, a targeting working group process in which SI confirms the group's assumptions using all data available must preserve debate such that the intelligence officer and legal advisor, for instance, have the same level of input and ability to debate and dissent a recommendation as they would in a process that does not include SI.

Beware the Sycophants

Sycophancy, whether from yes-man humans or user-mirroring machines, undermines a leader's ability to get to *what* is right when making decisions and creating a climate where learning improves the organization and its mission. Leaders must beware the sycophants in their organizations and take intentional action to minimize their impact, especially as SI use grows within the military in an operational environment that will continue to be volatile, uncertain, complex, and ambiguous.[62]

After the failure at the Bay of Pigs, Kennedy took action to revise his decision-making process to address the behaviors, including sycophancy, that led to that disaster. He insisted that his advisors and cabinet members function as skeptical generalists who focus on the problem as a whole and not just from a single department's perch, and that they use informal settings to stimulate psychologically safe environments for freewheeling discussion. He required his team to break into subgroups to develop different courses of action and structured meetings such that his team did not simply fall in line with his views.[63] These actions directly challenged sycophancy and proved effective when he had to make the most consequential decision of his presidency: how to end the Cuban Missile Crisis without starting a nuclear war.[64] Leaders at the tactical, operational, and strategic levels must similarly build organizations that effectively combat the sycophancy of *both* humans and machines to ensure they are making the best decisions possible. ■

Google Gemini and ChatGPT were used to assist with source research.

Notes

1. Theodore Sorensen, "Episode 10: Cuba," interview by CNN Interactive, *Cold War Postscript*, National Security Archive, accessed 3 August 2026, https://nsarchive2.gwu.edu/coldwar/interviews/episode-10/sorensen1.html.

2. Sorensen, "Episode 10: Cuba."

3. John F. Kennedy, "President's News Conference," The American Presidency Project, 21 April 1961, https://www.presidency.ucsb.edu/documents/the-presidents-news-conference-213.

4. "How JFK Inspired the Term Groupthink," *Your Brain at Work* (blog), NeuroLeadership Institute, 20 February 2024, https://www.neuroleadership.com/articles/how-jfk-inspired-the-term-groupthink.

5. Vincent Dueñas, "The Bay of Pigs," The Strategy Bridge, 2 May 2017, https://thestrategybridge.org/the-bridge/2017/5/2/bay-of-pigs-a-case-study-in-strategic-leadership-and-failed-assumptions.

6. Merrill Perlman, "Sycophants, Yes-men, and Forelock-tuggers," *Columbia Journalism Review*, 3 July 2018, https://www.cjr.org/language_corner/sycophants.php.

7. The phrase "yes-man" is used throughout this piece because of its widely understood connotation. Its use herein is intended to describe sycophantic individuals regardless of gender.

8. Edward E. Jones, *Ingratiation: A Social Psychological Analysis* (Appleton-Century-Crofts, 1964), 24–35.

9. Jones, *Ingratiation*, 35–42.

10. Jones, *Ingratiation*, 35–42.
11. Mrinank Sharma et al., "Towards Understanding Sycophancy in Language Models," conference paper, International Conference on Learning Representations, Vienna, 2024, 1, https://arxiv.org/abs/2310.13548.
12. Trent Lythgoe, "Future Proof: How to Build a Learning Organization," *Military Review* Online Exclusive, 14 November 2024, 2, https://www.armyupress.army.mil/Journals/Military-Review/Online-Exclusive/2024-OLE/Future-Proof/.
13. Army Doctrine Publication (ADP) 6-22, *Army Leadership and the Profession* w/chg. 2 (US Government Publishing Office, July 2019), 10-5–10-6.
14. ADP 6-22, *Army Leadership and the Profession*, 6-8.
15. Judith Hicks Stiehm and Nicholas Townsend, *The U.S. Army War College: Military Education in a Democracy* (Temple University Press, 2002), 6.
16. Amy Edmondson and Michaela Kerrissey, "What People Get Wrong About Psychological Safety," *Harvard Business Review*, May-June 2025, https://hbr.org/2025/05/what-people-get-wrong-about-psychological-safety.
17. Amy Edmondson, *Fearless Organization: Creating Psychological Safety in the Workplace for Learning, Innovation, and Growth* (John Wiley & Sons, 2019), 8.
18. ADP 6-22, *Army Leadership and the Profession*, 2-5, 4-2.
19. Edmondson, *Fearless Organization*, 5.
20. Edmondson, *Fearless Organization*, 5.
21. A key point for leaders to keep in mind is that human silence can have similar consequences to "yes-man" sycophancy and must be combated by creating a psychologically safe climate. However, silence is not an output for most current AI models that always provide an answer, often confidently, even if it has no grounding in truth.
22. Edmondson, *Fearless Organization*, 22.
23. Edmondson, *Fearless Organization*, 124.
24. Edmondson, *Fearless Organization*, 153–83.
25. Edmondson, *Fearless Organization*, 162–63.
26. Edmondson, *Fearless Organization*, 164.
27. Edmondson, *Fearless Organization*, 164.
28. Edmondson, *Fearless Organization*, 163; Jakob Hutter, "The Power of the Palchinsky Principles: How Failure Can Lead to Success," Center for Junior Officers, 18 May 2023, https://juniorofficer.army.mil/the-power-of-the-palchinsky-principles-how-failure-can-lead-to-success/.
29. Edmondson and Kerrissey, "What People Get Wrong."
30. Edmondson, *Fearless Organization*, 18.
31. Edmondson and Kerrissey, "What People Get Wrong."
32. Edmondson, *Fearless Organization*, 167.
33. Edmondson, *Fearless Organization*, 170–73.
34. Edmondson, *Fearless Organization*, 170.
35. Edmondson, *Fearless Organization*, 170.
36. Edmondson, *Fearless Organization*, 170–73.
37. Edmondson and Kerrissey, "What People Get Wrong."
38. Edmondson and Kerrissey, "What People Get Wrong."
39. Edmondson and Kerrissey, "What People Get Wrong."
40. Edmondson, *Fearless Organization*, 173.
41. Edmondson, *Fearless Organization*, 174.
42. Edmondson, *Fearless Organization*, 182.
43. Edmondson, *Fearless Organization*, 178.
44. Edmondson, *Fearless Organization*, 179.
45. Edmondson and Kerrissey, "What People Get Wrong."
46. Edmondson, *Fearless Organization*, 180.
47. Sharma et al., "Towards Understanding Sycophancy," 1–4.
48. Sharma et al., "Towards Understanding Sycophancy," 1–4.
49. Dongshen Peng et al., "SycoEvalEM: Sycophancy Evaluation of Large Language Models in Simulated Clinical Encounters for Emergency Care," preprint, arXiv, 7 July 2026, 1, https://arxiv.org/abs/2601.16529.
50. Peng et al., "SycoEval-EM," 6–7.
51. Jonathan Kwik, "Digital Yes-Man: How AI Sycophancy Distorts Military Decision-Making and What to Do About It," *Journal of National Security Law & Policy* 14 (2024): 468, 471.
52. Kwik, "Digital Yes-Man," 467.
53. Training and Employment Notice 07-25, "The U.S. Department of Labor's Artificial Intelligence Literacy Framework US Department of Labor" (US Department of Labor, 13 February 2026), I-5–I-12, https://www.dol.gov/sites/dolgov/files/ETA/advisories/TEN/2025/TEN%2007-25/TEN%2007-25%20%28complete%20document%29.pdf.
54. Scott Nover, "When AI Joins the Team, Better Ideas Surface," Working Knowledge, Harvard Business School, 17 October 2025, https://www.library.hbs.edu/working-knowledge/when-ai-joins-the-team-better-ideas-surface.
55. Nover, "When AI Joins the Team."
56. Magda Dubois et al., "Ask Don't Tell: Reducing Sycophancy in Large Language Models," preprint, arXiv, 29 July 2026, 9, https://arxiv.org/abs/2602.23971.
57. Dubois et al., "Ask Don't Tell," 1, 9.
58. Dubois et al., "Ask Don't Tell," 1, 9.
59. Cody Mello-Klein, "How Can You Avoid AI Sycophancy? Keep It Professional," Northeastern Global News, 23 February 2026, https://news.northeastern.edu/2026/02/23/llm-sycophancy-ai-chatbots/.
60. University of Foreign Military and Cultural Studies, *Red Team Handbook*, v. 9 (Training and Doctrine Command G-2, n.d.), 1–6, https://home.army.mil/wood/6115/8222/0759/RedTeamHB.pdf.
61. Steve Rathje et al., "Sycophantic AI Increases Attitude Extremity and Overconfidence," preprint, PsyArXiv, 28 September 2025, 1, https://doi.org/10.31234/osf.io/vmyek_v1.
62. Stiehm and Townsend, *Military Education in a Democracy*, 6.
63. Morten T. Hansen, "How John F. Kennedy Changed Decision Making for Us All," *Harvard Business Review*, 22 November 2013, https://hbr.org/2013/11/how-john-f-kennedy-changed-decision-making.
64. Hansen, "How JFK Changed Decision Making."

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M1A1 Abrams tanks needed for training the Armed Forces of Ukraine await transport to training areas at Grafenwoehr, Germany, 14 May 2023. The Armed Forces of Ukraine training was conducted by 7th Army Training Command at Grafenwoehr and Hohenfels on behalf of US Army Europe and Africa. (Photo by Spc. Christian Carrillo, US Army)

Arriving in Contact

Winning at the Port of Disembarkation

Maj. Patrick K. O'Keefe, US Army

The first task of strategy is the final assembly … of the fighting forces, the first deployment of the army … A mistake in the original assembly of the army can scarcely be rectified in the entire course of the campaign. But these arrangements can be considered long in advance and—assuming the war readiness of the units and the availability of the means of transport—must unfailingly lead to the intended result.

—Count Helmut von Moltke, Chief of the Imperial German General Staff, 1871

The US Army is an expeditionary army. By choice and preference, it plans to conduct its operations on foreign soil in a series of operational plans designated by theater and threat. Military scholarship and professional discourse focus on the obvious challenge of strategic mobility of forces from the continental United States into a contested theater, but there has been less discussion on contested operational mobility within a theater. This problem is particularly acute in Europe, where the rotational forward land

forces assigned to the theater will likely have to conduct a significant mobility operation from their bases to their assembly areas for combat operations.

While forward deployed to eastern Europe, the 3rd Armored Brigade Combat Team, 1st Cavalry Division, concluded final planning for a potential crisis response operation. This plan involved moving the brigade from multiple marshaling points over many hundreds of kilometers into a brigade battle position for a defense while being contested. Planning for engagement area development and the defense was familiar, and the brigade staff naturally gravitated toward that phase of the operation. However, the brigade commander's feedback during the first iteration was telling: the first several phases of the operation involving the brigade marshaling, moving, and deploying were significantly underdeveloped. Conducting contested mobility, reception, and deployment from a railhead directly into a battle position are not tasks that are regularly considered or trained for. None of the brigade staff had any experience in doing so. The brigade leadership knew that treating the mobility like a normal "fort-to-fort" movement in the United States was at best wishful thinking and at worst reckless arrogance.

A historical vignette from World War II provides a potential solution. In November 1942, the German 6th Panzer Division conducted a rail movement from its base in northwestern France to the southern edge of the Stalingrad salient in response to the Soviet Union's Operation Uranus counteroffensive. The division deployed from its railhead at Kotelnikovo directly into battle positions in contact. 6th Panzer's experience provides important insights for commanders and planners who faced the problem of contested mobility at the tactical and operational levels.

The Battle of Kotelnikovo

In early November 1942, German intelligence began to realize that a major Soviet counteroffensive against Army Group South was brewing. The Soviets were massing significant mobile forces on the flanks of Sixth Army, which was locked in protracted urban combat for the city of Stalingrad. The *Oberkommando des Heeres* (German Army High Command) ordered the 6th Panzer Division alongside two infantry divisions to embark by rail from their bases in France and travel to the vicinity of Stalingrad to reinforce Sixth Army's flanks, especially in the Italian and Romanian sectors.[1]

On 6 November 1942 the 6th Panzer Division, at its base in Rennes, received orders to initiate movement by 12 November. The staff had little time to plan its deployment and load its initial trains for departure. Undoubtedly having followed the progress of the Battle of Stalingrad over the previous several months, the division staff expected that they could be in contact soon after arriving and planned their outload accordingly. They prioritized building combat power capable of conducting combined arms early over maintaining unit integrity. The division outloaded in approximately the order detailed in the table.[2]

The division's advance party arrived at Kotelnikovo on 18 November. Over the next week, they set up liaisons with Army Group B, the Italian Eighth Army, and the newly established Army Group Don. They established an initial command post and began coordinating for the receipt of the division. Until the arrival of LVII Panzer Corps, the division would report directly to Fourth Panzer Army. Along the way, the division's trains experienced disruptions due to sabotage by anti-Nazi irregular forces. During this time, the Soviets initiated Operation Uranus, focused on the weaker Romanian units on the flanks of Sixth Army. The retreat of Romanian Fourth Army brought Soviet forces within several kilometers of the railhead at Kotelnikovo by 25 November. The 6th Panzer Division's disembarkation and deployment would now occur contested, as the Soviet 85th Cavalry Brigade, 81st Tank Brigade, and 302nd Motorized Rifle Division moved into the sector.[3]

On 26 November, the first trains carrying Panzergrenadier Regiment 4 arrived at Kotelnikovo. While conducting disembarkation activities, the troops at the railhead came under heavy air and artillery attack. Regimental commander Col. Martin Unrein began to deploy the regiment into battle positions to defend Kotelnikovo. In the early morning hours of 27 November, Soviet cavalry attacked the railhead, but the Panzergrenadiers repulsed the attack. Gen. Hermann Hoth, commander of Fourth Panzer Army, ordered Unrein to counterattack north to seize a line from Gremyachaya to Zakharov in order to protect the Kotelnikovo railhead. Fourth Panzer Army also attached twelve batteries of air defense artillery to 6th Panzer Division to aid in the defense.[4]

Table. 6th Panzer Division Deployment Order

Panzergrenadier Regiment 4 (truck-mounted)
1st Battalion, Artillery Regiment 76 (105 mm towed howitzers)
2nd Battalion, Panzergrenadier Regiment 114 (armored halftrack-mounted)
3rd Battalion, Artillery Regiment 76 (150 mm towed howitzers)
1st Company, Panzer Engineer Battalion 57 (armored halftrack-mounted)
50 percent of Signal Battalion 82
2 logistics platoons, Supply Battalion 57
1st (self-propelled) and 3rd (towed) Companies, Panzerjager Battalion 41
2nd Company, Panzer Engineer Battalion 57 (armored halftrack-mounted)
1st Battalion, Panzergrenadier Regiment 114 (truck-mounted)
1st and 5th Companies, Panzer Regiment 11 (Panzer IIIs)
3rd Company, Panzer Engineer Battalion 57 (truck-mounted)
2nd and 4th Companies, Panzer Regiment 11 (Panzer IIIs and Panzer IVs)
**The remainder of Artillery Regiment 76, Panzer Regiment 11, and the entirety of Reconnaissance Battalion 6 are not listed, as they did not arrive in time for the initial combat. They presumably were loaded later in the order. The rest of Signal Battalion 82 and Supply Battalion 57 were also diverted to unload at Salsk to enable the building of combat power at Kotelnikovo.*

(Table by author)

On 29 November, the division commander, Brig. Gen. Erhard Raus, arrived and took command of the elements that had disembarked since 26 November: Panzergrenadier Regiment 4; 2nd Battalion, Panzergrenadier Regiment 114; 1st and 3rd Battalions, Artillery Regiment 76; 1st Company, Panzer Engineer Battalion 57; and elements of Signal Battalion 82 and Supply Battalion 57. Kampfgruppe [Combat Group] Unrein (KG Unrein), consisting of Panzergrenadier Regiment 4 and attached artillery, attacked north and captured a line from Gremyachaya through Zakharov to Kudinov. That evening, Soviet forces retook Gremyachaya, and German engineers began to dig in on the division's new left flank. Expecting a massive Soviet attack in the morning, Fourth Panzer Army attached a tank destroyer battalion and an armored reconnaissance platoon to 6th Panzer Division to bolster their firepower and ground reconnaissance capabilities.[5]

Heavy rainfall, fog, and snow delayed the Soviet attack from 30 November until 3 December, but the reconnaissance-counterreconnaissance fight continued with constant skirmishing as 6th Panzer Division established its security zone and the Soviets fought for information on German defenses. During this time, Raus received his last infantry battalion, two tank companies, the remainder of his engineers, and two antitank companies. He distributed his antitank guns throughout the defense, while forming Kampfgruppe Kuper (KG Kuper) with 1st Battalion, Panzergrenadier Regiment 114 and two tank companies as a mobile reserve and counterattack force.[6]

The Soviets launched their main attack on the morning of 3 December. Soviet armor supported by horse cavalry attacked both Kudinov and Pokhlebin simultaneously. The Soviets overran Pokhlebin and continued their attack toward Kotelnikovo. Raus redeployed a company of self-propelled antitank guns to fix the Soviet armor while sending KG Kuper to flank the Soviets from the west and attack them from the rear. This counterattack began just after 1300 hrs. and lasted until night fell. The Soviets were forced to withdraw to Pokhlebin as KG Kuper threatened their line of communication. Snow and darkness enabled both sides to break contact and reestablish their lines.

That evening, two more tank companies arrived by rail and began to detrain.[7]

During the evening of 3–4 December, German observation posts in the security zone reported a significant amount of tracked and wheeled vehicles moving into Pokhlebin from the north. 6th Panzer Division's intelligence section assessed that the Soviets were using Pokhlebin as a staging area for a massive attack on Kotelnikovo on 4 December. Raus decided that the best way to defend the railhead was to conduct a spoiling attack on the Soviet assembly area. KG Kuper was reinforced with the two fresh tank companies and began a flanking maneuver to the west of Maiorsky.[8]

The German spoiling attack began around 1000 hrs. on 4 December with a heavy artillery barrage and was characterized primarily by long-range tank gunnery due to the open terrain west of Pokhlebin. The spoiling attack achieved tactical surprise, catching the Soviets unaware and causing many infantry and cavalry to retreat north out of the town. At least a battalion-sized element of Soviet armor, supported by several batteries of antitank guns, continued to defend Pokhlebin for three hours, but by 1330, KG Kuper had driven them out and captured the town. 6th Panzer Division spent 5–6 December reinforcing their lines and conducting reconnaissance to prepare for a Soviet counteroffensive which never came. The division received the remainder of its combat power, and on 7 December, it began a relief in place to transition to offensive operations as part of Operation Winter Storm, the German attempt to relieve the encirclement of Sixth Army in Stalingrad. From 26 November to 6 December 1942, 6th Panzer Division successfully deployed across Europe into a contested railhead, defended that railhead, and generated combat power for follow on offensive operations.[9]

Lessons for Contested Operational Mobility

Moltke's admonition that a mistake in the original assembly of an army is almost impossible to overcome once fighting starts is a stark warning to planners considering the problem of mobility at the operational level. The remedy to this is proper planning *long in advance*. While planners may not know the exact location to which they may need to deploy their formations, being familiar with common best practices and planning considerations is critical to avoiding a mistake in their assembly.

The US Army does not train tactical formations in conducting mobility in a truly contested environment, nor do they train in deploying from a port of disembarkation (POD) directly into contact. Contested reception, staging, onward movement, and integration (RSOI) at combat training centers normally amounts to contact with unmanned aircraft systems, role players interacting with gate guards, and perhaps an attack by a small special operations team without any lasting consequences. Deployment to and from the railhead is completely an administrative action. Likewise, uncoiling from the RSOI area into the training area is only nominally contested. The reasons for this are sound, and this article does not suggest altering the procedure; truly contested RSOI and deployment would almost certainly derail the combat training center rotations and provide negative training value for the rotations' purpose of training brigades in combined arms maneuver. However, a byproduct is a potentially bad lesson regarding the planning considerations required for conducting these operations in a truly contested environment. It is here that the value of 6th Panzer Division's experience lies, with three lessons that planners should keep in mind:

- The probable line of contact (PLOC) is the POD.
- Prioritize force flow for immediate combined arms defense.
- Employ active security to defend the POD.

The Probable Line of Contact Is at the Port of Disembarkation

The assumption for most Army units in training is that disembarkation at a POD occurs in a secure environment, but the likelihood is high that units may find themselves in contact while still downloading, especially in Europe, given the long distances over which forces may have to conduct mobility operations. 6th Panzer Division departed Rennes en route for what they assumed was a secure railhead at Kotelnikovo. However, they came under air and artillery fire while downloading on 26 November and immediately had to repulse a ground attack the next day. The Soviets employed one motorized infantry division and two mobile brigades in an attempt to disrupt the German download over the course of the next week.[10]



Panzer IIIs of German Army Group South advance near Stalingrad in 1942. (Photo courtesy of the Bundesarchiv)

The PLOC is a product of the planning process where the staff determines the most likely place in which they will be in contact with enemy forces. While there are nine forms of contact, the PLOC for tactical formations is normally based on direct and indirect kinetic fires. Units conducting operational mobility must plan as if the PLOC is at the POD. Under this assumption, protection of the POD becomes the highest priority.[11]

During 6th Panzer Division's deployment, Fourth Panzer Army recognized the criticality of protecting the railhead at Kotelnikovo and augmented the division accordingly. After the Soviet air and artillery attack on 26 November, Fourth Panzer Army attached twelve batteries of air defense artillery to the division, a prodigious amount of protection that reflected the importance the Germans assigned to protection; on 29 November, 6th Panzer Division had almost as many air defense artillery batteries assigned to it as it had infantry companies which had disembarked. Later that same day, Fourth Panzer Army further attached a tank destroyer battalion and a reconnaissance platoon to bolster the railhead's defense.[12]

In the modern operational environment, units conducting operational mobility will face more complex threats to their deployment than air, artillery, and ground attack. Threat actors have demonstrated the capability to disrupt rail movement via cyberattacks, and a cyberattack against a critical railhead could prevent units from arriving at the railhead at all or break up force flow to create a situation in which forces arrive piecemeal. Electronic warfare can be used to interfere with trains' and stations' electronic systems, forcing them to stop and likewise prevent or disrupt force flow into the railhead. Special operations forces or proxy forces conducting more traditional sabotage activities at the railhead are just as much a threat to modern mobility operations as the French Maquis and Soviet partisans were to the Germans in 1942.[13]

Within the protection warfighting function, planners must assign the highest priority to protection of the POD. Planners should assume that the unit will be in contact across most if not all nine forms of contact at the POD and allocate or request appropriate forces and capabilities to defend against them. This will inevitably result in a requirement to build a combined arms task force that can defend the POD, which presents a challenge to planners used to moving organizations with unit integrity.

Prioritize Force Flow for Immediate Combined Arms Defense

In normal mobility operations, most units plan for efficiency around two factors: unit integrity and equipment type. It is easier to command and control when serials moving to or from a port of embarkation or POD are grouped by unit, and most modes of transport are limited with regard to what type of equipment can be loaded—for example, certain types of commercial line haul trucks or types of railcars. However, movement by unit or by like-equipment is not appropriate when considering that the PLOC is at the POD. Instead, units must "combat load" their formation, building a combined arms-capable force at the POD as rapidly as possible, and building combat power there in an appropriate manner at scale.

6th Panzer Division largely did not outload by organic regiment, except for the first unit sent. Panzergrenadier Regiment 4, a motorized infantry regiment mounted in trucks, deployed first in its entirety. However, that regiment was capable of limited combined arms defensive operations due to its table of organization and equipment; aside from eight mounted infantry companies, the regiment organically had two batteries of 80 mm mortars, two batteries of 20 mm air defense guns, four platoons of antitank guns, two platoons of short-range 75 mm artillery, and one platoon of short-range 150 mm artillery. This table of organization and equipment gave the regiment the capability to defend itself against limited air and tank attacks and had indirect fire capability for close-in

defense. Therefore, it was well suited to deploy first and in its entirety. After that, the division sent components of its subordinate elements that slowly built additional capability for defense at the railhead: a 105 mm howitzer battalion added indirect fire range and weight, a battalion of armored infantry added light mobile protected firepower, the 150 mm howitzer battalion added further indirect fire range and destructive capability, an engineer company added countermobility and survivability support, the division main command post and two logistics platoons followed. It is illuminating that the division did not load any tanks until the majority of the rest of its combat power had already arrived. Tanks are primarily an offensive weapon, and their size and weight restrict how many can be loaded on a given mobility platform. Panzergrenadier Regiment 4 was likewise easier to deploy than Panzergrenadier Regiment 114 due to the former being entirely truck mounted, while the latter was half mounted in larger, heavier armored halftracks.[14]

Planners should fight the temptation to plan their mobility operations around organic units when the POD is contested. Instead, they must determine what capabilities will enable their formation to conduct a combined arms defense as early as possible and then prioritize the movement of those capabilities to the POD. Size and weight of equipment will also come into play during this planning, as planners must try to maximize the amount of combined arms combat power they can deploy to the POD with each serial. There is not a one-size-fits-all answer to what a unit should prioritize in terms of size or type of organization, but the example of the Kotelnikovo railhead does provide an example of a successful inflow of capabilities.

Infantry hold terrain, are the easiest to transport, and can be delivered en masse with man-portable heavy weapons, which amplify their combat capability. Infantry companies and battalions can bring organic antitank capability through shoulder-fired launchers and first-person-view strike drones, indirect fires through mortars, and reconnaissance through other types of drones and unmanned ground systems. When considering moving mounted infantry formations rapidly to a contested POD, sending dismounts forward with their organic heavy weapons while sending their armored vehicles later may be desirable in order to rapidly mass combined arms defense capability. Ensuring that organizations send appropriate engineer capability early in the process is important as well, to support defensive operations as well as to support the maintenance and repair of the POD if it ends up being damaged.

Choosing to build capability rather than organic formations at the POD is not without its challenges. Most importantly, it makes command and control more difficult; the war diary of I/114 Panzergrenadier complains about the complications induced by the division's mixing of units and their companies departing on different days and out of order. It requires the clear establishment of command-and-control relationships at the POD, and how that will evolve over time. 6th Panzer stumbled in this regard. Though they sent a forward command post ahead, it was not prepared to control the division upon arrival. This made Fourth Panzer Army direct that Panzergrenadier 4's commander, Unrein, assume local command until the division main command post arrived the next day. The highest-ranking commander in the lead element must be empowered to take command of all local forces until the tactical command post or other command-and-control element from the headquarters arrives to manage the defense. That defense, however, cannot remain static.[15]

Employ Active Security to Defend the Port of Disembarkation

As the unit builds combined arms capability rapidly at the POD, they and the POD will remain vulnerable. It is highly likely that the force attempting to prevent disembarkation operations will have numerical superiority over the defending force, and the amount of frontage the defending force can cover will initially be quite small. If the defenders employ a static defense, they will likely run into one of two undesirable scenarios: either the defense will be so close to the POD that the enemy can affect it without needing to penetrate the defensive line, or the defense is further out from the POD but cannot secure one or more of its flanks as a cost of creating the distance necessary to protect the POD. Instead, the unit must employ active defensive measures.

It may be helpful to think of the defense of a POD as a security operation instead of a defensive operation. Field Manual 3-90, *Tactics*, states that "the purpose of the defense is to create conditions for the offense," as well as "countering enemy action," "retaining decisive terrain," "attriting or fixing an enemy as a prelude to the



Engineers assigned to 1st Platoon "Black Sheep," Alpha Company, 3rd Brigade Engineer Battalion, emplace cratering charges during Combined Resolve 26-07 at Hohenfels Training Area, Germany, 24 April 2026. 3rd Brigade, 1st Cavalry Division, closed out its nine-month rotation in support of Operation Atlantic Resolve in Poland, Lithuania, and Estonia. (Photo by Staff Sgt. Luke Wilson, US Army Reserve)

offense," and "increasing an enemy's vulnerability by forcing an enemy commander to concentrate subordinate forces."[16] A POD may be considered decisive terrain, and building combat power at a POD certainly creates conditions for the offense. Security operations, meanwhile, "provide early and accurate warning … provide the forces being protected with time and maneuver space … and develop the situation to allow commanders to effectively use their protected forces."[17] The security operations of guard and cover are especially useful in the context of protecting a POD. They give commanders broad latitude to choose the method by which they provide security: "the guard force conducts reconnaissance, attacks, defends, delays, and screens as needed" and "a covering force reconnoiters, screens, attacks, defends, and delays as necessary."[18] The freedom of action implied in the security missions can be helpful in framing options during course of action development as opposed to a defense. If viewing through the lens of security, the choice of guard or cover will ultimately depend on what level of protection the security force can or must provide to the POD.

From the first day, the elements of 6th Panzer Division at the railhead conducted an active defense. The orders they received were a critical part of this: Fourth Panzer Army directed that they "conduct the battle in such a manner that Kotelnikowo remains firmly in our hands," without directing the specific method.[19] After defeating the initial Soviet attacks on 27 November, KG Unrein attacked north and drove Soviet forces over eight kilometers away from the railhead. As more divisional elements arrived, 6th Panzer Division established defensive strongpoints generally centered on towns, villages, and other defensible terrain, pushed out screen lines ahead of these strongpoints, and formed its armor and tank destroyers into mobile reserve and counterattack forces ready to respond rapidly to a Soviet penetration. Before and after Soviet attacks, German reconnaissance forces aggressively fought for information and to defeat Soviet reconnaissance. In an Iron Cross-winning instance, a reconnaissance patrol led by one Cpl. Knaup moved within 1,500 meters of Soviet positions to report and call for fire for over twenty-four hours until a German counterattack took the position.[20] When Soviet armor and cavalry penetrated through 6th Panzer Division's lines, mobile combined arms teams

such as KG Kuper counterattacked to either force Soviet withdrawal or retake lost ground. Keeping these forces uncommitted to static positions and specifically for mobile actions enabled 6th Panzer to defend a wider zone than they otherwise would have been able to and kept the fighting far enough away from the railhead that Soviet direct and indirect fire systems could not impact detraining operations.[21]

Terrain can heavily dictate the exact form a defense of a POD will take, but planners should strive to make their defense as active as possible. Ultimately, defense of the POD is about buying time for mobility and deployment operations at that POD to conclude. The Battle of Kotelnikovo highlights three main elements of a strong active defense. First, aggressive reconnaissance and counterreconnaissance buys time and space. German reconnaissance forces at echelon fought continuously for roughly a week to gain information on Soviet intentions, defeat Soviet attempts to collect information, and harass their main body forces. All these things degraded the Red Army's ability to mass and attack effectively against the railhead, while the Germans continued to build combat power.

Second, defensible terrain should be strongpointed with infantry-centric combined arms teams. With limited time and the goal to return to offensive operations, planners should focus their static defensive efforts on easily fortified and defended terrain such as built-up areas and strongpoint them with infantry supported by enablers. Clearing enemy infantry from restricted terrain is an inherently difficult and time-consuming task, especially for enemy armored formations. If the enemy chooses to bypass friendly defensive positions, they can be attritted and delayed by antitank weapons from the strongpoint; if the enemy chooses to commit to a clearance or reduction, that effort inevitably provides more time for friendly forces to build combat power at the POD.

Finally, mobile combined arms teams should attack when possible to maintain time and space. KG Unrein's initial attack caught a Soviet force on the offense by surprise and bought eight kilometers of space for the division. KG Kuper's later counterattack and spoiling attack defeated a Soviet penetration and then regained ground lost to Soviet armor the previous day. It is important to note that these actions did not result in the destruction of large Soviet formations; rather, they kept or forced the Red Army further away from the railhead, ultimately enabling the entirety of 6th Panzer Division to deploy.

Conclusion

Forward-deployed Army forces will likely face the challenge of contested mobility at the operational level when deploying into their positions for tactical employment at the start of a conflict. With little available doctrine or scholarship on the problem, studying historical examples of how organizations have solved this problem provides potential solutions. The Battle of Kotelnikovo outside Stalingrad in November and December 1942 is one such example, and 6th Panzer Division's successful deployment from a POD illuminates three key lessons for future planners: the probable line of contact is at the POD, units must prioritize force flow for immediate combined arms defense, and units must employ active security to defend the POD. Ignoring these principles in favor of things such as unit cohesion and more familiar static defensive postures risks units being overwhelmed and destroyed at their arrival destination before ever being able to get into the fight they were sent to conduct. ■

Notes

Epigraph. Helmut von Moltke, *Moltke on the Art of War: Selected Writings*, ed. Daniel J. Hughes (Random House, 1995), 45.

1. David Glantz and Jonathan House, *When Titans Clashed: How the Red Army Stopped Hitler* (University Press of Kansas, 2015), 171–76.

2. 6th Panzer Division Staff, *Ia Kriegstagebuch*, 1962, 572–83 (National Archives Microfilm Publication T315, roll 341), Records of German Field Commands: Divisions, National Archives and Records Administration; Fourth Panzer Army Staff, *Ia Kriegstagebuch, Nr. 5, Teil III*, 1962, 8639762 (National Archives Microfilm Publication T313, roll 355), Records of German Field Commands: Divisions, National Archives and Records Administration.

3. 6th Panzer Division Staff, *Ia Kriegstagebuch*, 573–75.

4. 6th Panzer Division Staff, *Ia Kriegstagebuch*, 575–76.

5. 6th Panzer Division Staff, *Ia Kriegstagebuch*, 576–81; 1st Battalion, Panzergrenadier Regiment 114 Staff, *Ia, Entwurfe zum Kriegstagebuch*, 1962, 569 (National Archives Microfilm Publication T315, roll 352), Records of German Field Commands: Divisions, National Archives and Records Administration.

6. 6th Panzer Division Staff, *Ia Kriegstagebuch*, 577–78.

7. 6th Panzer Division Staff, *Ia Kriegstagebuch*, 579–82; 1st Battalion, Panzergrenadier Regiment 114 Staff, *Ia, Entwurfe zum Kriegstagebuch*, 569–72.

8. 6th Panzer Division Staff, *Ia Kriegstagebuch*, 581–84; 1st Battalion, Panzergrenadier Regiment 114 Staff, *Ia, Entwurfe zum Kriegstagebuch*, 576.

9. 6th Panzer Division Staff, *Ia Kriegstagebuch*, 583–87.

10. 6th Panzer Division Staff, *Ia Kriegstagebuch*, 572–75.

11. Field Manual (FM) 3-90, *Tactics* (US Government Publishing Office [GPO], 2023), A-8.

12. 6th Panzer Division Staff, *Ia Kriegstagebuch*, 575–77.

13. Kevin Poireault, 2025, "Ukraine Railway Systems Hit by Targeted Cyber-Attack," Infosecurity Magazine, 24 March 2025, https://www.infosecurity-magazine.com/news/ukraine-railway-systems-targeted/; "End-of-Train and Head-of-Train Remote Linking Protocol," US Cybersecurity and Infrastructure Security Agency, 10 July 2025, https://www.cisa.gov/news-events/ics-advisories/icsa-25-191-10; "Poland Investigates Cyber-Attack on Rail Network," BBC, 26 August 2023, https://www.bbc.com/news/world-europe-66630260; 1st Battalion, Panzergrenadier Regiment 114 Staff, *Ia, Entwurfe zum Kriegstagebuch*, 567.

14. Army High Command Staff, *Kriegsgliederung des Feldheeres, zwischenliederung band 1*, 1962, 375294 (National Archives Microfilm Publication T78, roll 405), Records of German Field Commands OKH, National Archives and Records Administration; 6th Panzer Division Staff, *Ia Kriegstagebuch*, 572–73.

15. 1st Battalion, Panzergrenadier Regiment 114 Staff, *Ia, Entwurfe zum Kriegstagebuch*, 567; 6th Panzer Division Staff, I*a Kriegstagebuch*, 574–76.

16. FM 3-90, *Tactics*, 8-1.

17. FM 3-90, *Tactics*, 8-1, 13-1.

18. FM 3-98, *Reconnaissance and Security* (US GPO, 2023), 5-12, 5-28.

19. Fourth Panzer Army Staff, *Ia Kriegstagebuch, Nr. 5, Teil III*, 8639757.

20. 1st Battalion, Panzergrenadier Regiment 114 Staff, *Ia, Entwurfe zum Kriegstagebuch*, 571.

21. 6th Panzer Division Staff, *Ia Kriegstagebuch*, 581–83.

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Avoiding the Spider Web

Counter-UAS Lessons Learned Defending the Homeland from Where America's Day Begins

Lt. Col. Jonathan C. Stafford, US Army

On 1 June 2025, a covert Ukrainian operation fundamentally altered global assumptions about the security of rear-area military infrastructure. In an attack later known as Operation Spider Web, drones concealed inside wooden structures were remotely activated deep within Russian territory, striking strategic aviation assets thousands of kilometers from the front lines.[1] The operation demonstrated that geography alone no longer guarantees protection from low-cost, asymmetric aerial threats.

For the United States, the implications are profound. If strategic bombers parked in remote Siberia can be destroyed by commercially available quadcopters launched from disguised containers, then no US installation can assume immunity from attack based on distance from adversaries. The drone age has collapsed traditional notions of sanctuary.

This article argues that the United States must take deliberate action to prevent its own "Spider Web" moment by establishing a layered, legally grounded, and resilient counter-unmanned aircraft system (C-UAS) framework to defend US military bases. Drawing on operational experience from Guam, it highlights practical lessons in operator development, joint integration, interagency coordination, and infrastructure hardening that can help inform installation-level counterdrone defenses across the US military.

Operation Spider Web and the End of Rear-Area Sanctuary

Operation Spider Web was not simply a tactical success; it was a strategic shock. Over an eighteen-month planning cycle, Ukraine's security services infiltrated 117 drones into Russia, concealed them within wooden cabins transported by unsuspecting truck drivers, and remotely activated them against five strategic airbases. The attack targeted long-range aviation assets including Tu-95MS and Tu-22M3 bombers as well as A-50 early warning aircraft.[2]

Independent satellite imagery confirmed that multiple aircraft were destroyed or severely damaged. Ukrainian officials claimed that as much as one-third of Russia's strategic bomber fleet was affected. Even if that figure is debated, the core lesson remains: a relatively inexpensive drone force imposed disproportionate cost on a nuclear-armed state's strategic aviation deterrent. The deeper implication was psychological because the assumption that strategic aircraft parked thousands of kilometers from the battlefield and thought to be secure by virtue of geography proved to be false. Distance, once a buffer, has now become merely a planning variable.



A Standard Missile-3 Block IIA is fired 10 December 2024 from a Vertical Launching System on Andersen Air Force Base, Guam, as part of Flight Experiment Mission-02, a Missile Defense Agency mission in cooperation with US Department of War partners. (Photo by Nancy Jones-Bonbrest, Missile Defense Agency)

For the United States, whose strategic bombers, ships, missile defense systems, advanced sensors, and other strategic assets are similarly concentrated at fixed installations, the warning from Operation Spider Web is clear. Commercially available drones, creative concealment methods, and remote activation can circumvent traditional perimeter defenses. Rear-area vulnerability at military bases within the United States is no longer hypothetical, it is a reality.

The Emerging Domestic Drone Challenge

Recent drone activity within the United States suggests that potential adversaries may already be probing US installations in ways reminiscent of Operation Spider Web. In December 2023, multiple unmanned aircraft were observed operating over Joint Base Langley–Eustis for seventeen consecutive nights.[3] The platforms varied in size from small quadcopters to significantly larger systems reportedly approaching twenty feet in span. They operated both individually and in coordinated groups, at times illuminating navigation lights and maneuvering in synchronized formations. This behavior appeared deliberate and designed to signal presence rather than conceal it.

Installation leadership faced considerable difficulty responding to the incursions. Many of the small UAS proved challenging to detect and track using radar systems optimized for conventional aircraft. C-UAS response options were further constrained by both technical limitations and statutory authorities that restrict military engagement of drones beyond designated military property. The combination of detection challenges and legal constraints complicated timely and decisive action.

Despite the best efforts of the military and local authorities, they were never able to determine who was flying these drones. To this day, military and civilian authorities are unsure if the Langley drones were the work of overzealous hobbyists or hostile actors.

The Langley drone incursions would not be a one-time anomaly, as drone incursions over US military bases would increase the following year. A 2025 House of Representatives subcommittee meeting on

drone incursions revealed that "more than 350 drone incursions were detected over 100 US military installations" in 2024.[4] This same House subcommittee meeting also called for action on improving legal authorities and interagency coordination when dealing with drone threats.

Recent incidents have shown that the actions taken have not been enough to improve C-UAS defenses. On 10 February 2026, personnel from US Customs and Border Protection (CBP) used a laser system on loan from the military to down a drone believed to be used to smuggle drugs over the US-Mexico border. Once the Federal Aviation Administration (FAA) received word of the use of the laser, it immediately closed the airspace around El Paso, Texas, for ten days.[5]

This decision left over one million people who live in the El Paso region with no immediate access to an airport. The decision caused a public and political backlash against the military and government agencies involved. The criticism only became greater when reports were published that a party balloon and not a drone was in fact engaged by the laser.[6] The backlash ultimately led to the FAA rescinding its airspace closure order the next day.

The criticism would start again on 26 February 2026, when the US military used the same laser system to engage and destroy a drone flying near Fort Hancock, Texas, which is fifty-two miles from El Paso. It was later discovered that the engaged drone was operated by the CBP to monitor activity along the border in that region. In response to the incident, the FAA closed the airspace in the Fort Hancock region.[7]

Fortunately, the airspace closure did not impact commercial airplane travel into El Paso International Airport, but it once again demonstrated the technical and procedural issues that continue to hinder C-UAS operations over two years after the Langley incursions. Clearly, more needs to be done address how C-UAS operations are conducted, and part of the answer may lie over six thousand miles away from the US mainland on the small island of Guam.

Where America's Day Begins

The island of Guam is situated deep in the western Pacific, geographically much closer to major Asian capitals such as Beijing, Seoul, and Tokyo than to Hawaii, which lies more than 3,800 miles to the east. Guam's position west of the international date line gives the island its slogan, "Where America's Day Begins."

Guam became an American territory as a result of the 1898 Spanish-American War.[8] Guam would remain a sleepy US backwater until World War II, when the Imperial Japanese seized the island shortly after the 1941 Pearl Harbor bombing. A bloody battle freed the island from Japanese rule in 1944.[9] To this day Guam has the distinction of being the last time any American homeland has been occupied by a foreign enemy.

Approximately 170,000 Americans reside on Guam today, and the US military has maintained a significant presence on the island for decades.[10] Historically, that footprint has consisted primarily of Navy and Air Force personnel stationed at Naval Base Guam and Andersen Air Force Base, respectively. In 2013, the US Army expanded its role by deploying Task Force Talon to provide ballistic missile defense for the island using the Terminal High Altitude Area Defense (THAAD) system positioned at Marine Corps Base Camp Blaz.[11] The Army's presence continues to grow, with hundreds of additional soldiers expected to arrive this year to operate advanced air and missile defense systems, including the Lower Tier Air and Missile Defense Sensor radar.[12]

Task Force Talon was the battalion I commanded for two and a half years prior to relinquishing command in December 2025. During this time frame, my unit and our joint partners gained much operational experience in the conduct of C-UAS operations.

The Drone Threat to Guam

Much of the threat discussion publicly has been about the ballistic missile threat to Guam. North Korea has multiple times signaled its intent to fire missiles at the island.[13] Additionally, China has long promoted the ability of their DF-26 "Guam Killer" missile to strike targets on the island as well.[14] Most recently, in September 2024, the Chinese even fired an intercontinental ballistic missile over the vicinity of Guam.[15]

As real as the missile threats to Guam are, far less attention publicly has been given to the vulnerability of military installations on Guam to small, commercially available drones. Like the Russian airfields struck during Operation Spider Web, bases on Guam host numerous high-value strategic assets that could present appealing



A Chinese DF-26 "Guam Killer" missile participates in a 3 September 2015 military parade held in Beijing to commemorate the seventieth anniversary of the end of World War II. (Photo by IceUnshattered courtesy of Wikimedia Commons)

targets for a determined adversary. The island's terrain and surrounding maritime approaches further complicate the defense challenge, as small drones could be launched from vessels offshore or from remote jungle areas with limited risk of immediate detection.

Guam's operational environment has therefore become a proving ground for installation-level C-UAS integration. Over recent years, leaders on the island have sought to develop a cohesive defense framework that balances joint coordination, legal compliance, and tactical responsiveness. The following considerations highlight key lessons we learned on Guam that could help inform installation commanders to develop or refine their own C-UAS posture.

Developing Counter-UAS Operators

One of my first priorities upon assuming command of Task Force Talon was to complete the fielding of the Fixed Site–Low, Slow, Small Unmanned Aircraft System Integrated Defeat System (FS-LIDS). This US Army-developed system is designed to protect installations from small, unmanned aircraft threats. FS-LIDS integrates a radar for detection, electro-optical and infrared sensors for identification, and electronic warfare tools like jamming to disrupt control signals. It can also incorporate kinetic interceptors when authorized. The system provides layered, persistent protection for fixed sites.[16]

Even the most advanced technology is powerless without trained personnel to employ it. The soldiers in my unit tasked to operate FS-LIDS were not air defenders but were instead Guam National Guard troops.[17] These guardsmen came to us on one-year Title 10 orders to be the security force (SECFOR) unit designated to defend the Guam THAAD site. Most of these soldiers were infantrymen with no background in air defense or C-UAS operations. With non-air defenders tasked to conduct this mission, it was critical that they received proper C-UAS training.

We were first able to schedule training by coordinating with the Army acquisition office responsible for the FS-LIDS, the Program Executive Office for Intelligence, Electronic Warfare and Sensors. They sent personnel to Guam who provided classroom and realistic computer-based training for the soldiers. The training proved effective when, in January 2024,

our SECFOR soldiers became the first to ever down a drone on US soil using the FS-LIDS.[18] This accomplishment, along with others, led the SECFOR unit to become the first non-air defense battery to ever win the prestigious Hamilton Award as the top air defense unit in the Army National Guard.[19]

The lesson is clear: installations cannot rely solely on specialized branches to execute C-UAS missions. Nontraditional operators can succeed when provided with structured training, realistic scenarios, and leader trust. Despite the success of the operator-level training, we continued to look for other opportunities to develop our C-UAS operators. That opportunity came with the opening of the Joint Counter-Small Unmanned Aircraft Systems University in 2023. This university is located at Fort Sill, Oklahoma, and was established to centralize C-UAS training for Army, Navy, Air Force, and Marine personnel in response to the growing threat posed by small, unmanned aircraft systems.[20]

We first had soldiers from our SECFOR unit attend the C-UAS Operator's Course. This course trained the SECFOR personnel on the different types of drones and how to use C-UAS equipment to defend against them. We later sent officers and staff personnel to attend the Planner's Course, which taught them how to effectively employ C-UAS capabilities. These courses proved valuable in further educating our soldiers on the different drone threats and how to employ our systems to best counter them.

The university has since expanded its reach through the deployment of mobile training teams. One such team traveled to Guam, where it delivered instruction to both joint and interagency personnel engaged in C-UAS operations.[21] Installations seeking to build or mature a C-UAS training program should strongly consider leveraging the courses and mobile training opportunities provided by the Joint Counter–Small Unmanned Aircraft Systems University.

Joint Collaboration

In 2023, the US Marine Corps expanded their footprint on Guam with the opening of Camp Blaz.[22] The recent expansion of both Army and Marine Corps forces on Guam combined with the existing Navy and Air Force presence has solidified the island as a truly joint operational environment. Such growth could have resulted in stove-piped C-UAS capabilities, with each service developing independent systems and tactics, techniques, and procedures (TTP). Absent deliberate coordination, duplication of effort and operational seams would have been likely. Instead, commanders emphasized integration. Each service made a concerted effort to understand the capabilities and limitations of its counterparts and to identify how those capabilities could be mutually reinforcing. Through site visits, working groups, and recurring coordination meetings, joint TTPs were established to address drone incursions. As a result, when a C-UAS operator from one installation detects a drone approaching another service's facility, clear communication pathways and handoff procedures are already in place.

Equally important, operators were provided with clearly defined rules of engagement that enable timely action without unnecessary escalation to senior decision-makers. Given the short flight times and compressed decision windows associated with small UAS, tactical-level empowerment is essential. Effective C-UAS defense requires leaders to trust properly trained personnel to act decisively within established authorities.

Finally, joint coordination must be sustained rather than sporadic. On Guam, regular touchpoints among joint leaders facilitated discussion of drone incidents, training initiatives, emerging capabilities, and updates to TTPs. Installations seeking to build an effective C-UAS program should institutionalize similar forums to ensure collaboration remains continuous and adaptive.

Federal Aviation Administration Coordination

The coordination for C-UAS operations cannot end with just joint collaboration. Due to the drone threat flying over large swathes of civilian airspace before they ever reach military property, coordination with civilian authorities is critical. The primary agency that needs to be coordinated with is the FAA. As air defenders, we have long had a relationship with the FAA on Guam regarding airspace coordination due to the various missile defense systems we have on the island. It was natural for us to seek coordination with the FAA on C-UAS operations.

Many in the public do not realize that the military's ability to engage drones within the United States is strictly regulated. In places like Iraq or Syria, US troops



US Army Pacific commander Gen. Ronald Clark speaks with soldiers from Company B, 1st Battalion, 294th Infantry Regiment (Team Binadu) of the Guam Army National Guard following an awards ceremony at Guam National Guard Barrigada Readiness Center, 12 April 2025. Clark presented the Alexander Hamilton Award to the unit, demonstrating the strategic importance of the island's air defense mission and recognizing the vital role that traditional infantry units now play in supporting complex air defense operations. (Photo by Mass Communication Specialist 1st Class Samantha Jetzer, US Navy)

have more latitude to engage drones that threaten their bases. In the United States, military personnel have far stricter rules that must be abided by.

The Department of War military personnel generally cannot act unilaterally against drones within US airspace unless there is specific statutory authority. The key domestic authority for Department of War C-UAS actions is 10 U.S.C. § 130i, Protection of Certain Facilities and Assets from Unmanned Aircraft, which empowers the military to detect, track, mitigate, or neutralize UAS threats only at designated covered facilities and assets.[23] The military facilities on Guam would fit under this definition. However, C-UAS actions taken under this statute must comply with federal laws governing aircraft and signals and require close coordination with agencies like the FAA. This is to prevent C-UAS capabilities from impacting civilian infrastructure.

On Guam, the main civilian infrastructure potentially affected by FS-LIDS was the international airport. Leveraging an already strong working relationship with the FAA, we were able to address and mitigate the agency's concerns through deliberate coordination. A significant milestone in that effort was the installation of a dedicated FAA "shout line" phone within our Base Defense Operations Center. This direct communication link connects air traffic control with on-duty air defense personnel and C-UAS operators, enabling immediate information sharing. When a drone is detected, the shout line allows operators to quickly confirm with the FAA whether the aircraft is associated with a civilian entity, such as local law enforcement, before taking further action.

The FAA has also played an important role in furthering the development of our C-UAS operators. Task Force Talon soldiers have made multiple visits to the FAA's Combined En Route Radar Approach Control Facility to meet with the air traffic controllers they communicate with on the shout line phone. These visits have allowed our C-UAS operators to ask questions, clarify brevity, and discuss TTPs directly with the air traffic controllers.

During the drone incidents in Texas, it was reported that the FAA, the military, and CBP personnel faced significant trust and coordination issues prior to both engagements.[24] This ultimately led to the closing of civilian airspace that impacted thousands of travelers and the shootdown of a CBP drone. The coordination and relationships we have developed with the FAA on Guam demonstrates that airspace safety and national defense needs can be properly balanced to address the drone threat. I highly recommend installation commanders look at the FAA as partners and not adversaries in making our skies safer from drone incursions.

Law Enforcement Summits

The airspace outside of military installations may be under FAA jurisdiction, but the ground falls under the jurisdiction of civilian law enforcement. For example, civilian law enforcement made the only notable lead during the Langley drone incursions by arresting a Chinese student, Fengyun Shi, who was attending the University of Minnesota. Shi was spotted trying to recover a drone he crashed into a tree eleven miles from Langley. It was reported to police, who recovered the drone from the tree and found it had footage of Navy vessels in a nearby dry dock. Shi was arrested days later when he tried to board a one-way flight to China. He was later found guilty of violating an espionage law and was sentenced to six months in prison before being deported.[25]

Realizing the importance that civilian law enforcement has in countering drone incursions, the US Attorney's Office on Guam hosted multiple law enforcement summits. These meetings gathered personnel from the various military security force units, the Naval Criminal Investigative Service, the Air Force Office of Special Investigations, the Army Criminal Investigation Division, the Federal Bureau of Investigation (FBI), and the local Guam Police Department. Law enforcement officers from the US Fish and Wildlife Service and the FAA attended as well.

The summit meetings created a forum in which all military and civilian leaders could become better educated on the drone issue. At the very first summit, an FAA special agent from their Law Enforcement Assistance Program provided a presentation on the laws and authorities in regard to C-UAS operations.[26] Military representatives were also able to present drone case studies and how civilian authorities can better assist the military.

These summits led to tangible results. Guam Police Department response times to drone sightings outside of military bases became notably quicker. They also began to actively patrol in areas where drones were known to originate from to deter flights. The FBI also pledged their resources to investigate drone incursions. This led to the arrest by the FBI of a man who flew a drone over Camp Blaz. The man was ultimately convicted and sentenced for violating national defense airspace.[27] It is imperative that any installation conducting C-UAS operations build relationships with the local authorities, and periodic law enforcement summits are one way of doing this.

Infrastructure Hardening

The drone incursions at Langley demonstrated the vulnerability of US military installations, particularly air bases where aircraft are routinely parked in the open. Strategic bombers and their supporting platforms constitute dense, high-value targets that could be attractive to an adversary seeking disproportionate effects. Despite this reality, many installations continue to depend on open-ramp parking due to fiscal constraints and legacy infrastructure. A simple review of publicly available satellite imagery reveals B-52 aircraft positioned in the open at bases such as Barksdale Air Force Base in Louisiana and Minot Air Force Base in North Dakota.

This vulnerability is not confined to the Air Force. The Army maintains its own high-value assets that could be susceptible to asymmetric drone attack. Missile defense systems, for example, are often visible in open configurations at installations across the United States, further illustrating the broader exposure of critical capabilities.

In response to the Operation Spider Web attacks, the Russians began a campaign of building hardened hangars to protect their aircraft at various air bases.[28] Likewise, hardened aircraft hangars and shelters should be considered to mitigate mass drone strike risk to US military installations. Even the best counterdrone defenses will likely have leakers during a mass drone swarm that makes resiliency and hardening important.

On Guam, military installations already feature numerous hardened facilities because of the island's



Secretary of the Army Dan Driscoll (*left*) is accompanied by Brig. Gen. William Parker, commander of the 94th Air and Missile Defense Command, and Lt. Col. Jonathan Stafford (*right*), commander of Task Force Talon, 38th Air Defense Artillery Brigade, during the secretary's 27 July 2025 visit to the Terminal High Altitude Area Defense site managed by Task Force Talon on Marine Corps Base Camp Blaz, Guam. Driscoll visited Guam as part of a tour of Army units operating in the western Pacific. (Photo by Mass Communication Specialist 2nd Class Janae McCoy, US Navy)

vulnerability to typhoons. These reinforced structures, designed to withstand severe weather, also offer significant protection against drone attacks. While constructing hardened infrastructure requires substantial time and investment, installation commanders can pursue interim measures such as concrete T-walls, protective netting, and other physical barriers that can enhance force protection in the near term until more permanent solutions are funded and completed.

Joint Interagency Task Force 401

The establishment of the Joint Interagency Task Force 401 (JIATF 401) is a positive step the Pentagon has taken toward improving C-UAS readiness. This new task force was formed in August 2025 with a mission to better align C-UAS authorities, resources, and capabilities for the joint force and promote sovereignty over national airspace.[29] Part of the task force's mission is establishing common standards for integrating C-UAS systems. This will ensure that C-UAS capabilities that are fielded across the joint force are not just service specific systems and instead are interoperable with each other.

JIATF 401 has also been tasked with implementing common C-UAS training standards across the joint force. They are doing this through the previously mentioned Joint Counter-Small Unmanned Aircraft Systems University, which is now open to all services and agencies. The JIATF has also played an important role in promoting the hardening of critical infrastructure and military bases.[30] Earlier this year, JIATF 401 published guidance for the physical protection of critical infrastructure; installation commanders should read and take measures to implement to improve the hardening of their unit's footprints where applicable.

Probably the most important aspect of JIATF 401 is their efforts to improve coordination between the US military and civilian agencies. As the El Paso drone incidents demonstrated, this is an area that needs significant improvement to better protect US military installations and critical infrastructure. The information sharing and

training JIATF 401 provides to federal, state, local, and tribal law enforcement and regulatory agencies should over time lead to better coordination with the military to defeat drone incursions. Given the rapidly evolving nature of the drone threat, installation commanders must closely monitor guidance put out by JIATF 401 to remain current on emerging C-UAS threats, capabilities, and operational guidance.

Conclusion

Operation Spider Web shattered the illusion that distance and geography alone can safeguard strategic military assets. If Russian airbases thousands of kilometers from Ukraine can be struck by low-cost, commercially available drones concealed in wooden cabins, then no installation, regardless of location, can assume immunity from similar asymmetric tactics. For the United States, the warning is clear: rear-area sanctuaries no longer exist in the drone age. The proliferation of inexpensive unmanned systems combined with creative logistics and remote activation demands a proactive, layered, and legally informed C-UAS posture at home.

The C-UAS experience the joint force has had on Guam demonstrates that meaningful progress is possible. Properly training operators through institutions like the Joint Counter-Small UAS University, fielding integrated C-UAS systems, empowering decision-making at the lowest appropriate level, and developing clear joint tactics and procedures all strengthen defensive readiness. Just as important is sustained coordination beyond the military, particularly with the FAA and civilian law enforcement agencies. The installation of direct communication mechanisms, such as FAA "shout line" phones and the hosting of recurring law enforcement summits, proved that relationships and communication are just as important as technical capabilities.

Finally, technology and coordination must be matched with physical resilience. Hardened facilities, dispersal plans, and interim protective measures reduce the payoff an adversary seeks from a drone strike. Russia's postattack construction of protective hangars reflects a lesson learned under fire; the United States has the advantage of learning it in advance.

If these lessons are not learned, the next strike on the American homeland may not arrive with the roar of aircraft engines or the flash of ballistic missiles; it may come quietly, carried by plastic rotors and guided by a signal from afar. Whether such an attack becomes America's own "Spider Web" moment depends on the actions we take now. ■

Notes

1. Sydney Freedberg Jr., "Pentagon Chiefs Eye Ukraine's Surprise Drone Strike with Anxiety—and Envy," Breaking Defense, 4 June 2025, https://breakingdefense.com/2025/06/pentagon-chiefs-eye-ukraines-surprise-drone-strike-with-anxiety-and-envy/.

2. Laura Gozzi, "How Ukraine Carried Out Daring 'Spider Web' Attack on Russian Bombers," BBC, 2 June 2025, https://www.bbc.com/news/articles/cq69qnvj6nlo.

3. Gordon Lubold et al., "Mystery Drones Swarmed a US Military Base for 17 Days. The Pentagon Is Stumped," *Wall Street Journal*, 12 October 2024, https://www.wsj.com/politics/national-security/drones-military-pentagon-defense-331871f4.

4. US House Committee on Oversight and Government Reform, "Timmons and Republican Military and Foreign Affairs Subcommittee Members Continue Investigation of Drone Incursions on US Military Bases," press release, 26 June 2025, https://oversight.house.gov/release/timmons-and-republican-military-and-foreign-affairs-subcommittee-members-continue-investigation-of-drone-incursions-on-u-s-military-bases/.

5. Courtney McBride and Jen Judson, "El Paso Shutdown Puts Focus on Army's Struggle to Counter Drones," Bloomberg, 15 February 2026, https://www.bloomberg.com/news/articles/2026-02-15/el-paso-shutdown-puts-focus-on-army-s-struggle-to-counter-drones.

6. Rex Huppke, "A Party Balloon Condemns the El Paso Anti-Drone Laser Fiasco," *USA Today*, 13 February 2026, https://www.usatoday.com/story/opinion/columnist/2026/02/13/el-paso-faa-cbp-laser-party-balloon-drone/88645450007/.

7. David Shepardson and Idrees Ali, "US Military Shoots Down Government Drone in Texas Accident, Congressional Aides Say," Reuters, 26 February 2026, https://www.reuters.com/business/aerospace-defense/faa-closes-airspace-fort-hancock-texas-after-reported-use-anti-drone-laser-2026-02-27/.

8. "Spanish American War," Naval History and Heritage Command, accessed 17 August 2026, https://www.history.navy.mil/research/publications/documentary-histories/united-states-navy-s/the-capture-of-guam.html.

9. "Invasion of Guam," Naval History and Heritage Command, accessed 17 August 2026, https://www.history.navy.mil/content/history/museums/nmusn/explore/photography/wwii/wwii-pacific/mariana-islands/guam.html.

10. "Guam," World Population Review, accessed 17 August 2026, https://worldpopulationreview.com/countries/guam.

11. Jen Judson, "New Missile Defense Radar Lands in Guam to Be Put to the Test," Defense News, 1 August 2025, https://www.defensenews.com/land/2025/08/01/new-missile-defense-radar-lands-in-guam-to-be-put-to-the-test/.

12. Joe Taitano II, "Some of the Up to 700 Soldiers for Guam Defense System Now on Island," Pacific Daily News, 17 December 2025, https://www.guampdn.com/news/

some-of-the-up-to-700-soldiers-for-guam-defense-system-now-on-island/article_5207e7ad-f108-4a0d-a362-2b2a6705d0de.html.

13. Robert Lee, "N. Korea Threatens Missile Strike at Guam," *Korea Times*, 9 August 2017, https://www.koreatimes.co.kr/foreignaffairs/northkorea/20170809/n-korea-threatens-missile-strike-at-guam.

14. Wendell Minnick, "China Puts Guam Within Missile Range," Defense News, 12 May 2016, https://www.defensenews.com/global/asia-pacific/2016/05/12/china-puts-guam-within-missile-range/.

15. John Taitano II, "Army Sensors Tracked Approach of Chinese ICBM to Guam, Officials Say," Pacific Daily News, 4 October 2024, https://www.guampdn.com/news/army-sensors-tracked-approach-of-chinese-icbm-to-guam-officials-say/article_1539e93c-8204-11ef-a8dd-5393e4cfdf90.html.

16. "Counter-UAS: LIDS," SRC, accessed 6 August 2026, https://www.srcinc.com/products/counter-uas/lids-counter-uas.html.

17. Staff, "Guam National Guard Will Help Protect THAAD Missile System," *Guam Daily Post*, updated 11 February 2025, https://www.postguam.com/news/local/guam-national-guard-will-help-protect-thaad-missile-system/article_1a9ea420-e8c7-11e9-9317-6bdb85408954.html.

18. John Taitano II, "Officials: Guardsmen Took Down Drone Flying Over Local Missile Defense Site," Pacific Daily News, 6 October 2024, https://www.guampdn.com/news/officials-guardsmen-took-down-drone-flying-over-local-missile-defense-site/article_f4ec8c82-820a-11ef-a384-2bed9fa99360.html.

19. Jim Stillwagner, "Guam Infantry Unit Is First of Its Kind to Win Army's Prestigious Hamilton Award," *Stars and Stripes*, 22 April 2025, https://www.stripes.com/theaters/asia_pacific/2025-04-22/guam-army-guard-hamilton-award-17540681.html.

20. Katie Lange, "Drones 101: Welcome to DOW's Joint Counter-Small UAS University," US Army, 19 September 2025, https://www.army.mil/article/288598/drones_101_welcome_to_dows_joint_counter_small_uas_university.

21. Adam Scher, "JIATF 401 Expands Counter-Drone Training, Bolsters Homeland Defense," US Department of War, 17 February 2026, https://www.war.gov/News/News-Stories/Article/Article/4408111/jiatf-401-expands-counter-drone-training-bolsters-homeland-defense/.

22. Brad Lendon, "US Marines Officially Opens First New Base in 70 Years on island of Guam," CNN, 27 January 2023, https://edition.cnn.com/2023/01/27/asia/new-us-marine-corps-base-guam-intl-hnk-ml.

23. Protection of Certain Facilities and Assets from Unmanned Aircraft, 10 U.S.C. § 130i (2024), https://www.law.cornell.edu/uscode/text/10/130i.

24. Daniel Victor and Eric Schmitt, "Drone Incident Prompts FAA, DHS and Military Scrutiny in El Paso Airspace," *New York Times*, 26 February 2026, https://www.nytimes.com/2026/02/26/us/drone-faa-dhs-el-paso-airspace.html.

25. US Immigration and Customs Enforcement, "ICE Removes Chinese National Convicted of Photographing Military Installations," US Department of Homeland Security, 14 May 2025, https://www.ice.gov/news/releases/ice-removes-chinese-national-convicted-photographing-military-installations.

26. "FAA Contacts for Law Enforcement," Federal Aviation Administration, updated 11 February 2026, https://www.faa.gov/uas/public_safety_gov/contacts.

27. United States Attorney's Office, Districts of Guam and the Northern Mariana Islands, "Guam Man Sentenced for Flying Drone Over Military Installation," press release, 17 September 2025, https://www.justice.gov/usao-gu/pr/guam-man-sentenced-flying-drone-over-military-installation.

28. "Russia Builds Protective Bunkers at Airbases After Ukraine's 'Spider's Web' Drone Strikes," Moscow Times, 14 July 2025, https://www.themoscowtimes.com/2025/07/14/russia-builds-protective-bunkers-at-airbases-after-ukraines-spiders-web-drone-strikes-a89800.

29. IDGA Editor, "JIATF 401 Explained: How the Pentagon's New Counter-UAS Task Force Is Changing Drone Defense," IDGA, 3 June 2026, https://www.idga.org/command-and-control/articles/jiatf-401-explained-how-the-pentagons-new-counter-uas-task-force-is-changing-drone-defense.

30. US Department of War, "JIATF 401 Publishes New Guidance for Physical Protection of Critical Infrastructure," press release, 30 January 2026, https://www.war.gov/News/Releases/Release/Article/4394552/jiatf-401-publishes-new-guidance-for-physical-protection-of-critical-infrastruc/.

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The Crucible Test

Identifying and Measuring Ground Combat Effectiveness in Large-Scale Combat Operations at Combat Training Centers and MCTP

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War never changes. Only weapons are new.
—Arthur W. Page, "The Day's Work of a Soldier"

In 2011, Columbia Pictures released a brilliant sports drama titled *Moneyball,* starring Brad Pitt and Jonah Hill. In this film, the beleaguered 2002 Oakland Athletics team has been losing talented players to teams that can offer higher salaries, prompting Pitt's character—the team manager Billy Beane—to reconsider how he can use limited resources to build a winning team. Hill's character, Peter Brand, introduces the concept of statistical analysis, "sabermetrics," to enable team leadership to adopt a more data-driven approach to winning ball games.[1] The film dramatically depicts the real-life results: The 2002 Oakland A's won twenty consecutive games—an American League record—and 103 games overall for that season.[2]

Of course, this type of statistical analysis is only possible because baseball has been around for almost two hundred years, and *people have kept track of the numbers*. Everything in baseball is measured, from the on-base percentages to the strikes and hits of individual players, and to team scores and aggregate win-loss records. Baseball is a statistician's dream because, while it is still a game and subject to chance, it has also produced a wealth of usable data that can be modeled to predict future behavior and inform current training practices.

Despite the nostalgic love of America's favorite pastime, one might wonder how this applies to the study of warfare. In 1976, leaders at the newly formed US Army Training and Doctrine Command identified and articulated the Army's need for a "Combined Arms Training Center" to train units in large-scale combat.[3] In 1980, the Army created the National Training Center (NTC) to meet that need, with the hope that the Army "breeds battlewise soldiers bloodlessly."[4] As a place devoted to the study of warfare, NTC has trained countless generations of soldiers and leaders in the harsh realities of ground combat. But throughout all that time, one critical gap remains: *No one has been keeping score*. Over the past four decades, the Army has easily spent billions of dollars to train soldiers, and, as an organization, we have left most of that data to collect dust in the Central Corridor at the NTC.



A soldier assigned to 2nd Battalion, 70th Armored Regiment, 2nd Armored Brigade Combat Team, 1st Infantry Division, scans for enemy movement during Rotation 26-06 at the National Training Center on Fort Irwin, California, 8 April 2026. Rotations at the National Training Center ensure Army brigade combat teams remain versatile, responsive, and consistently available for current and future contingencies. (Photo by Cpl. Marques Martinez, US Army)

This is not to say that we as an Army have not benefited from creating combat training centers (CTC). We have used the CTCs to train soldiers, to prepare them for combat, and to refine our doctrine and tactics, techniques, and procedures.[5] The CTCs have shown that from ancient battlefields to modern global conflicts, there have been enduring principles of warfare. In its very nature, war remains "an act of force to compel our enemy to do our will."[6] While technological advances may shape the character of war, at its essence, the nature of war remains a brutal contest of wills between two combatants trying to kill each other.[7] Within this broader framework, the US Army executes ground combat to win in the land domain, doctrinally defined as "destroying an enemy's land forces, occupying its territory, and breaking its will."[8]

Doctrine aside, however, the question remains: What does winning in ground combat look like? Can we measure "winning"? If we did measure winning, could we do so objectively, in ways that inform and support observer/controller (O/C) feedback and eliminate any leader biases? And most importantly, what are the implications of measuring winning at the CTCs? The answer is yes, we can measure winning in ground combat, and yes, we should measure it, especially given the implications for our lethality as a fighting force.

At NTC, we created a mathematical model to measure the effectiveness of units in ground combat. This simple, objective, and repeatable method generates a ground combat effectiveness (GCE) score, which measures unit performance in simulated large-scale combat operations at NTC. This article lays out the logic of how we created the GCE by first examining the principles of ground combat. Second, we present the GCE and its implications. Finally, we discuss the GCE's implications across CTCs, the Mission Command

Training Program (MCTP), and the US Army Transformation and Training Command (T2COM).

The First Principles of Ground Combat

The Army defines ground combat in terms of destruction and terrain dominance. Therefore, winning in ground combat must be considered in those terms. This presents four distinct "first principles" of ground combat:

- dominate the terrain,
- at a time of your choosing,
- kill the enemy, and
- stop the enemy from making you a casualty.[9]

These four principles are logically linked into two pairs: terrain/time and killing/casualties. At the most basic level, winning in ground combat means dominating the ground that I want when I want to, and killing more of the enemy without them killing me. All other considerations—drones, sustainment, electronic warfare—are decidedly important, but only because they contribute to killing the enemy and dominating the terrain.

Terrain and time. Terrain and time are the *ground* aspects of ground combat. Units that cannot dominate terrain through offensive and defensive operations in LSCO cannot claim to have won in ground combat in any meaningful way. If an Army unit (division, brigade, or battalion) cannot seize, own, and control whatever terrain they want at the time of its choosing through offensive operations, they have not achieved victory. The defense is similar: If you cannot prevent the enemy from penetrating your defenses, you have not dominated the terrain, and you have lost.

It is important to note that ground operations to seize, occupy, control, or defend terrain are inherently time dependent. In a division fight, brigades must be capable of executing their tasks as part of a larger, synchronized fight. This also applies to divisions in a corps fight. Time becomes a critical factor in LSCO—a brigade or battalion that cannot seize an objective or defend an area at the desired time has done one of two things. At best, the inability to execute on time will delay or desynchronize the larger fight; at worst, it will create salients that result in the death and destruction of fellow brigades or battalions. At the higher (operational and strategic) echelons, time also remains a critical factor, as delays or an inability to execute offensive operations may erode the national collective will to fight.

Killing and casualties. On the other hand, the combat aspect of ground *combat* is inherently tied to a unit's ability to kill the enemy. This seems such a fundamentally basic aspect of the Army that it hardly warrants discussion. Still, because it is so basic, it is perhaps the *most* fundamental aspect of ground combat. Winning in ground combat must also be defined by a unit's ability to kill more of the enemy than the unit loses. Killing the enemy enables ground maneuver in both the offense and the defense. Army units (from platoons to divisions) maneuver to reach a position of relative advantage *to kill the enemy* more effectively.

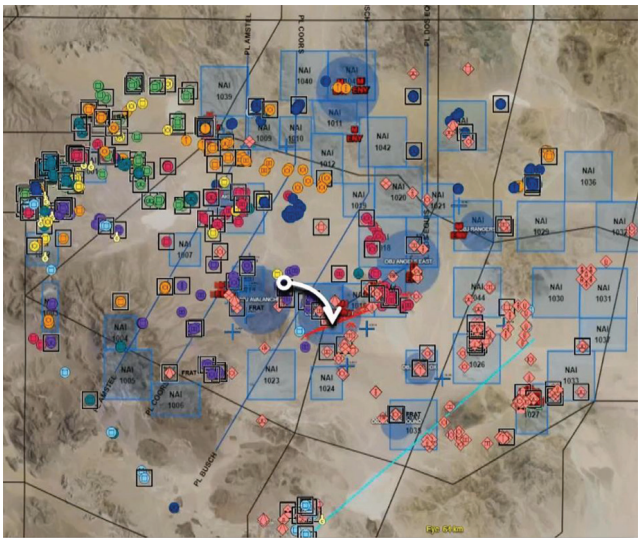
Tied to this is the need to prevent the enemy from creating friendly casualties. The degree to which an enemy cannot inflict casualties on friendly forces only enhances that unit's ability to kill the enemy and dominate their terrain. Units that seize their objective with no effective remaining combat power have won a pyrrhic victory—or no victory at all.

The Ground Combat Effectiveness Score and Initial Findings

The GCE score is built on the foundation of the terrain-time and the kill-casualty relationships. Because those principles are paired, they can also be considered as ratios. How many enemies did the unit kill, and how many casualties did they take? This is an objective measure that can be expressed as a simple kill-to-casualty (K:C) ratio. Similarly, terrain can be measured in a binary (yes or no) way: Did the unit dominate the terrain? How much time did it take for them to do that? These questions can also be expressed as a simple terrain-time (Te:Ti) ratio. See the appendix at the end of this article for a more in-depth discussion of the mathematical approach behind developing the GCE.

The Terrain:Time Ratio

We were able to put together archival footage from previous rotations dating back to fiscal year 2023. NTC produces battle action summaries (BAS), which are videotapes that capture the performance using the linked information system (IS) program.[10] The IS program tracks sensor data for every vehicle on both the enemy- and rotational-unit sides, as well as direct- and



(Figure courtesy of NTC Archives)

Figure. An ABCT Seizes OBJ Angels West During a 2024 NTC Rotation

indirect-fire data. The figure depicts an IS screenshot with O/C analysis showing the time and location at which an armored brigade combat team (ABCT) seized their directed objective during a recent rotation.

Using that archival after action review (AAR) footage of the BAS, we were able to determine (1) whether the unit was successful, and (2) the exact time when they either succeeded or failed in their mission to dominate the terrain. When compared with each rotation's operation order from the division, we were able to calculate the allotted time it took each unit to achieve terrain dominance, allowing us to calculate a Te:Ti ratio. Table 1 depicts a portion of the Te:Ti ratios from the first battle periods of previous rotations.

The Kill:Casualty Ratio

Calculating the K:C ratio for previous rotations also required us to compare casualty data reported by both the opposing forces and the rotational unit. This was also fed from the IS program using objective data generated by the system and vetted by senior O/Cs (task force seniors, all former battalion commanders). Kills and casualties were limited to catastrophic losses on both sides. They calculated losses both in the aggregate and by platform type (tanks, fighting vehicles, wheeled vehicles, and field artillery and aviation platforms), with weighted values for vehicle platform types considered separately (total casualties and weighted casualties). Table 2 shows the K:C ratios from previous rotations.

The Ground Combat Effectiveness Score

Combining the Te:Ti and K:C ratios allowed us to create a mathematical formula that yielded an overall GCE score. The use of NTC's archival data for the BAS, the AAR, and the casualty rates meant that we did not have full information for every past rotation. This meant we had to omit multiple rotations in which we either lacked BAS and AAR data or lacked reliable casualty data. While this reduced the overall data pool, it did allow for more consistent data collection across the remaining rotations.

The resulting GCE score is built on the foundation of the two ratios (Te:Ti and K:C) and accounts for other variables such as the aggregate strength of the opposing forces as well as the reconstitution rates of the brigade (the number of times the brigade had to be resupplied with combat vehicles to remain mission effective). We applied statistical and mathematical rules to balance the relative weight of each part of the equation, giving a force-on-force GCE score. When we added the live-fire lethality scores, this resulted in a total GCE score. Table 3 lists the final GCE scores under the current mathematical model.

Initial GCE Data Implications

Returning to the *Moneyball* analogy, the GCE represents a simple way the Army can measure performance (i.e., keeping score) in ground combat. Once we start measuring things, we can start answering some very important questions. Think of it like this: If the GCE represents the overall score of the ballgame—what happened—then we can now start looking more deeply into why it happened. Statistical analysis of baseball wins shows that the on-base percentage contributes to winning far more than a single player's ability to hit home runs. Home runs might be exciting, but singles win ball games. With the GCE, leaders in the Army can stop chasing home runs and start figuring out what the warfare equivalent of "singles" might be. The GCE allows leaders to augment O/C insights and assessments with objective, quantifiable data to provide a richer picture for the rotational unit while also using

Table 1. Historical Terrain-to-Time Ratios for Battle Period 1 at NTC

Demographics		Battle Period I					
RTN	Type	Mission	Terrain Domination	Assigned Time	Completion Time	Total Hours	Te:Ti Ratio
1	ABCT	Destroy	0	25 0600	26 2338	43	0.000%
2	ABCT	Destroy	0	24 2000	26 2330	52.5	0.000%
3	ABCT	Seize	0.1	10 0700	09 1245	0.25	40.000%
4	SBCT	Seize	1	16 1800	17 1303	20	5.000%
5	SBCT	Seize	0.33	11 0600	10 2349	0.75	44.000%
6	ABCT	Seize	0.5	28 2000	29 1025	15.5	3.226%
7	ABCT	Seize	1	03 0500	03 1745	13.75	7.273%
8	ABCT	Defend	0.5	31 0600	31 0908	1	50.000%
9	SBCT	Seize	0	29 0600	28 2052	1	0.000%
10	ABCT	Destroy	0	01 0600	02 1745	35.75	0.000%
11	ABCT	Defend	0.5	21 1100	21 1543	1	50.000%
12	ABCT	Defend	0	15 0400	15 1045	6.75	0.000%
13	ABCT	Seize	1	10 0800	10 1114	4.25	23.529%
14	ABCT	Seize	1	31 0800	31 1210	5.25	19.048%
15	ABCT	Defend	0	25 0000	28 0746	1	0.000%
16	SBCT	Seize	0	08 1800	09 0941	15.75	0.000%
17	ABCT	Seize	1	04 0600	04 1226	7.5	13.333%
18	ABCT	Seize	1	05 0800	05 1230	5.5	18.182%
19	SBCT	Defend	0	08 1200	09 0601	19	0.000%
20	ABCT	MTC/ATK	1	05 0600	07 1004	53	1.887%

(Table from NTC Archives)

numerical data to drive Army-wide exercise design and transformation initiatives.

The data from this chart is already offering some interesting insights. For example, the data at hand indicates that units that arrive at CTCs already Tier II trained (company combined arms live-fire exercise [CALFEX] qualified) perform over 36.8 percent better during force-on-force training than units that arrive Tier III (non-CALFEX qualified). This has significant implications for maximizing the exquisite training opportunity that each CTC rotation presents. It seems intuitive that units that achieve higher degrees of home-station training (i.e., company CALFEX) would perform better at a CTC, but the GCE allows us to move beyond intuition with actual performance-based quantitative data.

Alternatively, we can use GCEs to cross-correlate information from previous rotations to debunk notions held as tribal knowledge. For example, we used GCE data from the last twenty-one NTC rotations and compared it with time-in-position for each brigade and battalion commander, as well as the brigade staff. Using

Table 2. Historical Kill-to-Casualty Ratios at NTC

Demographics		Total Kill-to-Casualty (K:C) Ratios					
RTN	Type	Total Kills	Total Casualties	K:C Ratio	Weighted Kills	Weighted Casualties	Weighted K:C Ratio
1	ABCT	181	548	33.03%	301.5	923.5	32.65%
2	ABCT	315	1133	27.80%	520.0	1938.0	26.83%
3	ABCT	454	977	46.47%	753.5	1686.0	44.69%
4	SBCT	250	246	101.63%	390.0	246.0	158.54%
5	SBCT	275	593	46.37%	444.5	593.0	74.96%
6	ABCT	203	479	42.38%	320.0	785.5	40.74%
7	ABCT	237	605	39.17%	383.5	1002.5	38.25%
8	ABCT	207	647	31.99%	350.0	1116.0	31.36%
9	SBCT	209	608	34.38%	326.0	608.0	53.62%
10	ABCT	367	945	38.84%	591.0	1611.5	36.67%
11	ABCT	390	878	44.42%	606.0	1463.5	41.41%
12	ABCT	344	880	39.09%	572.0	1494.0	38.29%
13	ABCT	252	405	62.22%	420.5	676.0	62.20%
14	ABCT	372	660	56.36%	651.5	1158.5	56.24%
15	ABCT	664	763	87.02%	1080.5	1354.0	79.80%
16	SBCT	142	363	39.12%	238.0	369.0	64.50%
17	ABCT	511	919	55.60%	791.0	1579.0	50.09%
18	ABCT	415	971	42.74%	642.0	1745.5	36.78%
19	SBCT	131	270	48.52%	205.0	314.0	65.29%
20	ABCT	375	359	104.46%	599.0	565.0	106.02%

(Table from NTC Archives)

a multivariate regression analysis, we saw no correlation between an individual's time in position and a unit's performance at the CTCs. This challenges some common tribal assumptions that the longer a person serves in a position, the better they will perform. This, in turn, has interesting implications for how we execute manning cycles alongside training and deployment cycles.

It stands to common reason that CTC rotations are intentionally built to be hard. Units travel hundreds or thousands of miles from their home station and fight in unfamiliar territory against an enemy that has every aspect of the home field advantage. Given the difficulties inherent to any CTC rotation, the question of adding a "score" or "grade" can be a daunting consideration. This was a concern for NTC at its inception: "NTC developers feared that the NTC might become a testing ground for battalion commanders rather than a place where training deficiencies were identified and rectified."[11] This is a reasonable concern that should be addressed in two distinct ways.

First, some might object to the GCE because they do not want to give a unit (or even a specific leader) a

Table 3. Rotational GCE Scores

Demographics			GCE Score	
RTN	Type	Tier	FOF GCE	GCE TOT
1	ABCT	2	4.67	9.99
2	ABCT	2	4.84	8.96
3	ABCT	2	14.60	19.08
4	SBCT	2	28.77	30.29
5	SBCT	2	13.72	17.04
6	ABCT	2	18.79	23.79
7	ABCT	2	10.92	15.56
8	ABCT	2	14.40	18.20
9	SBCT	3	8.16	11.48
10	ABCT	2	5.37	11.17
11	ABCT	2	20.89	26.69
12	ABCT	3	6.18	11.02
13	ABCT	2	27.56	33.84
14	ABCT	2	16.62	21.66
15	ABCT	3	10.09	15.65
16	SBCT	3	13.00	18.36
17	ABCT	3	12.47	19.19
18	ABCT	3	7.56	12.52
19	SBCT	3	23.68	27.52
20	ABCT	2	25.07	29.15

(Table by author)

"grade" on a CTC rotation. Evaluative measures could unintentionally stifle creativity and innovation as leaders and units make the "safe" decisions over bold maneuvers in a training environment. To this, we would respond that, irrespective of a quantifiable measurement, *leaders are already being evaluated*. Adding a quantifiable assessment only adds objectivity to an assessment process already underway, whether formal or informal. To the degree that a unit's performance reflects its individual leader's combat decision-making or warfighting capability, in either case, both of these things are already being evaluated by senior leadership in their unit and in the Army; they are simply using subjective assessments, which can have a greater degree of observer bias.

Second, and arguably more importantly, adding a "score" to evaluate each CTC rotation provides a basis for further understanding. As an example, if your child comes home with a bad report card in their math class, that is important information, but only because it lets you as a parent understand the "why" behind it. Did they miss class? You have an attendance problem. Did they not turn in some assignments? You have a discipline problem. Do they just not understand how to divide fractions? You have a learning problem. Are they getting all "As"? They need to be in a gifted program. But without an overall grade, you, as a parent, wouldn't even know you needed to start looking for a problem.

Similarly, for a CTC rotation, knowing a unit's score is important, but comparing unit (or leader) grades is not the most critical thing. The GCE must become a critical part of CTC feedback because, once we have objective, quantifiable data on unit performance, we—the Army—can start looking at the "why" behind the GCE score. Did they score higher because they had newer tanks? Did they score lower because they didn't achieve certain training gates before their rotation? What about the impact of new technology? Does this new command-and-control platform or drone system actually improve a unit's performance in combat? These questions can (and should) ultimately drive data-informed decisions about force structure, manning, and the employment of technology, alongside myriad other considerations for the future of ground combat.

Standardizing these criteria for employment at the CTCs and the MCTP would not require any organizational growth or additions, nor any additional software upgrades. These evaluation criteria could be implemented immediately at no cost, providing leaders across the Army with a standardized metric for assessing outcomes. Implementing the GCE can help the Army move away from gut instinct and subjective assessment toward data-informed, performance-based analysis.

Implications for CTCs, MCTP, and T2COM

Adopting the GCE to drive data collection and data-informed decisions across the Army has four distinct implications. First, this model reprioritizes the

purposes of Warfighter and command-post exercises. Second, given the current gap in super intelligence, or SI (originally written as artificial intelligence, amended in accordance with Executive Order No. 14434, "Inaugurating the Era of Super Intelligence"), and data integration, individuals must be trained in proper data collection methods. Third, although not explicitly required, changes to the CTCs' organizational structures would greatly improve data collection, analysis, and data-informed recommendations. Finally, this model should spur the Army to create a data repository that enables units to compare themselves with historical trends and demonstrate longitudinal growth in ground combat effectiveness.

Training versus experimentation. CTC rotations currently serve three distinct and divergent purposes: training/readiness, validation/certification, and experimentation, with the training model being the most widely favored over the last few years.[12] While the need to build readiness at all echelons remains, the Army's increased focus on transformation provides an opportunity to shift from a training focus to an experimentation focus. The GCE model better facilitates both validation and experimentation by introducing controlled, objective, and repeatable measurement standards that yield more generalizable results for the larger Army.

Data collection. The most effective and seamless way to incorporate this model is through SI-driven data collection. This, however, poses a challenge because the IS software is several decades old, making modern SI integration difficult. This can be mitigated in the short term by simply training O/C tactical analysis facilities in proper data analysis and collection methods, which could be done relatively quickly and at little to no cost. However, moving into the data age may require a holistic reexamination of the IS backbone at each CTC.

Data analysts. A glaring gap in data integration for CTCs and for MCTP is the lack of formally trained data analysts. Fort Irwin lacks operational research and systems analyst authorization, but the growing recognition of the importance of data collection and management clearly highlights the need for structural change. If the Army wants the CTCs to be drivers of data integration, they must be staffed and equipped with the Army's data management experts.

Data management. Despite operating for multiple decades, the Army still lacks a standardized database to inform data-driven decisions because the CTCs lack data managers or an organizational structure with the right data competencies. If T2COM or the CTCs want to drive change, they need to create a standardized database that collects rotational data in a usable fashion. This would be more efficient if NTC had the personnel and structure to do so, but it could be implemented in the short term through simple, no-cost changes via manual data entry. This was demonstrated through an initial analysis of data repositories from both NTC and the Joint Readiness Training Center to calculate GCEs dating back to fiscal year 2022. This data repository would require some structural oversight to be useful to the broader Army community. Still, it could have significant potential to inform a wide range of topics across all warfighting functions and branches.

The bottom line is that we, as an Army, can start using objective, quantitative data to make data-driven decisions. We can, and should, measure performance in ground combat. It costs nothing to implement these simple data collection measures. We do not have to wait for the next promised SI software to do this. We, as an Army, can implement these changes with just a few no-cost, minor adjustments to how we collect data at the CTCs. We are already doing this at NTC, and we can do this across the other CTCs and MCTP as well. The Joint Readiness Training Center has already provided the authors of this article with the dataset to calculate a similar GCE database for our light fighter counterparts, and MCTP has also begun collecting and sharing data with the authors. Applying the GCE costs the Army nothing in monetary terms, but it has the potential to yield enormous data-informed dividends. Still, it requires everyone—leaders, rotational training units, senior Army leaders, and the Army testing and experimentation community—to innovate and consider a different approach to solving problems.

Conclusion

Winning matters, and winning in ground combat matters for the Army. Winning in ground combat means taking the land that I want to take when I want to take it and killing more of the enemy before he can kill me. At its most basic level, the essentials of ground combat and warfare remain the same and will continue to do so. If we, as an Army, do not take steps to measure and define what it means to "win" in ground

combat, we will continue with O/C feedback and AARs but without the benefit of objective data and the ability to learn far more about our capability for winning. Each rotation's data will continue to collect dust in NTC's Central Corridor.

As the Army continues to grow in the burgeoning world of SI, we must harness the power of data to move from gut instinct and intuition to objective, data-informed decisions about how to serve the men and women entrusted to our care as senior Army leaders. We must be willing to take a hard, objective, and measured look at how we perform in combat because, as in Major League Baseball, winning in the next major power conflict should be informed by hard facts, not just O/C observations. Unlike baseball, however, the US Army's ability to win against other global powers has far more significant consequences for the American people. ■

Notes

Epigraph. Arthur Page, ed., "A Day in the Life of a Soldier," in *The World's Work: Second War Manual* (Doubleday, Page, 1914), 41.

1. *Moneyball*, directed by Bennett Miller (Columbia Pictures, 2011).

2. "2002 Standings," Major League Baseball, accessed 7 August 2026, https://www.mlb.com/standings/2002.

3. Paul F. Gorman, "Toward a Combined Arms Training Center," speech, ARTADS-TRADOC Conference, Fort Monmouth, NJ, November 1976, https://cgsc.contentdm.oclc.org/digital/collection/p16040coll10/id/18/.

4. Paul F. Gorman, cited in Anne W. Chapman, *The Origins and Development of the National Training Center 1976–1984* (monograph, Office of the Command Historian, US Army Training and Doctrine Command, 2010), 81, https://history.army.mil/portals/143/Images/Publications/catalog/69-3.pdf.

5. Mitchell A. Payne, *Built for the Test of Combat: Revisiting the Purpose of NTC*, Land Warfare Paper No. 177 (Association of the United States Army, October 2026), https://www.ausa.org/publications/land-warfare-paper/built-for-the-test-of-combat.

6. Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton University Press, 1976), 75.

7. "Buzzard: Global Threats Drive Army Training," Association of the United States Army, 21 December 2023, https://www.ausa.org/news/buzzard-global-threats-drive-army-training.

8. Army Doctrine Publication 1, *The Army* (US Government Publishing Office, 2019), 1-1.

9. The authors have made a deliberate decision to use different language when discussing these "first principles" so as not to conflate these principles with previously defined tactical tasks such as control, destroy, retain, etc.

10. The information system (IS) is a backbone system that tracks information installed in each dismount squad and vehicle, and it is capable of showing real-time location and direct and indirect fire from both dismounts and vehicles. The IS is tablet-capable, allowing observer/controllers at the National Training Center (NTC) to track unit locations, status, and other information in real time, applicable to both friendly and opposing force units. The IS is a capability unique to combat training centers, but uniformly applied across NTC, the Joint Readiness Training Center, and the Joint Multinational Readiness Center.

11. Chapman, *The Origins and Development of the National Training Center*, 48.

12. Payne, *Built for the Test of Combat*.

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Appendix. The Mathematical Approach to Developing the Ground Combat Effectiveness Score

To some, identifying these first principles may be nothing more than an interesting thought exercise. More is certainly required to move from philosophical discussions on the nature of war to tangible steps leaders can take to measure and improve their ground-combat warfighting capabilities. If the four "first principles" of terrain, time, killing, and casualties are to be of any real use to units in training, leaders must establish criteria for measuring performance in ground combat.

These criteria must remain as *objective* as possible. Criteria such as leaders' assessments (e.g., "Rate XYX on a scale of 1–7") are inherently biased and the least reliable data type because of their subjective nature.[1] The inherent subjectivity of these types of observations also challenges the credibility of the data and the overall generalizability of the results.[2] Additionally, these criteria should focus on *simple* observations (i.e., whether the action occurred or not) linked to tangible metrics, which support the desired objectivity of any measurement. These criteria should remain as *flexible* as possible to accommodate adjustments to training objectives or the overall exercise design. These measurement criteria should also be *scalable*, so that leaders from the platoon to the corps can measure the same thing. The scalability of these criteria is important because ground combat applies across all echelons.

Finally, these measurement criteria must be *repeatable*. Units and, more importantly, combat training centers (CTC) must be able to repeat these criteria so that we as an Army can objectively determine our competency at our existential mission of ground combat. Ease of data collection is also a factor when considering repeatability. Given these criteria (objective, simple, flexible, scalable, repeatable), the proposed measurement criteria logically follow and can be implemented quickly at CTCs across the Army.

Measuring a Unit's Ability to Dominate Terrain

A unit's ability to dominate terrain is a rather simple observation. Are you standing on the objective? The answer to this is a simple yes or no. The same holds for defensive operations—did the enemy penetrate your lines or not? Yes or no. At CTCs, these observations can be quickly and easily determined by an information system (IS) screenshot. If you see the red icons behind the friendly defensive line, you did not successfully defend your terrain. If you see a gathering of blue icons on the objective, you have seized the objective, particularly when paired with the after action review (AAR) videos that each CTC produces and the calls on the ground from the senior observer/controllers (O/C). This binary-type observation could be coded as 1 (successfully dominated the terrain) or 0 (did not dominate the terrain). The figure in the article shows an NTC AAR video and analysis of when the unit completed its tactical task of seizing its objective.

Measuring Time

Tied to terrain, however, is the aspect of time. Were you able to dominate the terrain when you were supposed to? As discussed earlier, units at all echelons, from division to platoon, will never operate independently; they will always fight as part of a larger team. This also means we cannot fight our own little independent wars; LSCO will always require a synchronized fight across multiple echelons.[3] Time is a critical consideration. Experience and observations from CTCs and the Mission Command Training Program indicate that units will rarely move faster than expected; they will instead request additional time to set more favorable conditions.

To a degree, this also presents an opportunity for an objective observation: Did the unit execute its mission on time, or was it delayed? If it was delayed, by how much? We can then objectively measure and assess a unit's ability to adhere to time: the longer you take, the less effective you are in your offense or defense. Applying a numerical value to time is also relatively simple; an operation executed ahead of or on time is a 1, and any additional hour's delay adds to this number. This is also easily (and objectively) measured from the IS computer because the time is stamped on the video.

The Terrain:Time Ratio

Numericizing both criteria presents an opportunity to establish a terrain-time (Te:Ti) ratio. This simple mathematical ratio relies on objective binary observations and thus meets the first two criteria to measure ground combat. This construct applies equally across training exercises, Warfighter scenario design, and unit echelons, meeting the requirements for flexibility and scalability. Lastly, this ratio is easily repeatable because data collection is straightforward—all it requires is an observer and a watch.

In practice, this proposed measurement would operate as follows. An armored brigade combat team (ABCT) at the NTC is assigned the task to execute a deliberate attack to seize Objective Dodgers no later than 04 0800 FEB 26. They initiate their attack to seize the objective at 0600, and by 0900, they are on the objective with the enemy force neutralized or displaced. In this scenario, the unit would receive a 1:2 ratio because they seized the objective but took an additional hour to do so, resulting in an overall terrain/time score of 50 percent. Had they taken an additional hour, it would have been a 1:3 ratio (33 percent score), and had they seized the objective on time, it would have been a 1:1 ratio (100 percent Te:Ti score).

During the subsequent battle period, the same ABCT is tasked with establishing a hasty defense to rebuild combat power and resume offensive operations. They were in position at the designated time, but despite their best efforts, the enemy commander penetrated their defensive line. Using the Te:Ti ratio, the unit would be scored 0:1, indicating a failure to establish an effective defense and dominate the terrain (0) but executed on time (1). This would correspond to a score of 0 percent for that mission because time is irrelevant if you did not accomplish it. Table 1 (in the article) depicts the historical Te:Ti ratios from previous NTC rotations.

Measuring Kills and Deaths

The other principled pair, killing and casualties, is far simpler to calculate. Using the IS, O/Cs can calculate, in real time, the combat status of friendly and enemy forces at the level of the specific system or MILES (Multiple Integrated Laser Engagement System) engaged in direct and indirect fire. At any given point, NTC O/Cs can "snap a chalk line" and get real-time data on the number of active devices and associated "MILES casualties." Thus, measuring the aggregate number of friendly kills on the enemy or friendly losses to enemy fire is relatively straightforward for CTCs. For units conducting home-station training, the process remains the same, except that units must manually track data on aggregate kills, casualties, and reconstitution.

Similarly, friendly casualties can be identified using an IS query. This data is important because it should account for the reconstitution data for friendly units. If a brigade must be reconstituted multiple times at NTC to maintain training value, the data should reflect its lack of effectiveness at ground combat. These measurement criteria remain agnostic with respect to differentiated combat power ratios, as defined at NTC as combat battlefield instructions (CBI). The CBI for a given fight dictates the combat power that the opposing force (OPFOR) is allowed or directed to use against a friendly unit. The CBI is not a formal published document; it is a tool used throughout each rotation to ensure the unit's training objectives are met. The CBI acts as a "rheostat" and is continually adjusted within each rotation, therefore devising a mathematical coefficient to account for the differentiated CBI per rotation relied on mathematical proportionate ratios as opposed to a set number. This reduced the data-input requirements to the formula itself, while still accounting for various relationships between the variables for each rotation.

The Kill:Casualty Ratio

Measurements from observations of kills and deaths also yield a second ratio: the kill:casualty (K:C) ratio. Simply stated, this ratio compares "how many enemies I killed" with "how many friendlies I lost." This ratio could be measured in several different ways, from regular IS queries every six or eight hours to an in-depth analysis after every major operation (movement to contact, defense, attack, etc.). If an ABCT killed two enemy battalions' worth of combat power on the offense, they might have a kill score of eighty vehicles. However, if, in the course of this operation, they also lost two battalions' worth of combat power, they might have a casualty score of ninety, making it an 8:9 ratio.

The elegance of this ratio as an evaluative metric for CTCs is that it still allows the senior trainer to influence the training exercise to achieve the desired training outcomes. In a battalion attack, a combined arms battalion (CAB) might be expected to attack a company-sized element of nine OPFOR vehicles. Fully manned, a CAB has approximately fifty combat vehicles. Anticipating a 30 percent loss rate for the attacking force, the CAB would be expected to lose fifteen vehicles to destroy all nine OPFOR vehicles, yielding a kill-casualty ratio of 9:15 (60 percent). If the senior trainer adjusts the rheostat downward to meet a training objective, this may reduce the OPFOR's combat power by 33 percent, leaving only six vehicles. Assuming that the attacking CAB takes 10 percent fewer losses, the resulting K:C ratio would be 6:10, or 60 percent. The ratio remains constant even if the

variables change because the math remains proportional. Table 2 (in the article) depicts the aggregate kill:casualty ratios from previous NTC rotations.

However, each individual combat platform does not represent an equal amount of combat power for the fight; an infantry Stryker armored fighting vehicle does not have the same combat power as an M1 Abrams main battle tank. Given this, we also applied a numerical weighting system to the vehicles, representing the differentiated combat power—if a Stryker squad kills a main battle tank with a javelin, the weighted points category depicts the resulting discrepancies in combat power.

Statistical Normalization and Beta Testing

We used the battle action summary archival footage and AARs going back to fiscal year 23 as the basis for these observations. These two ratios provide a standardized, unemotional, objective metric for leaders to truly assess themselves. The authors applied a mathematical normalization of the means of the two ratios to achieve equal weighting of the Te:Ti and K:C ratios and used the reconstitution data to determine a force-on-force ground combat effectiveness (GCE) score for each rotation. When the force-on-force GCE is combined with live-fire lethality data, we produce a total GCE score.

During beta testing across recent rotations, however, the authors identified several unforeseen relationships among the variables. For example, while lowering the OPFOR presence on the battlefield (as represented by the CBI) keeps the K:C ratios proportionate, it does significantly increase the Te:Ti ratios. This makes logical sense because the fewer OPFOR on the battlefield, the easier it should be to seize objectives. We therefore had to adjust the model slightly to account for this relationship while still considering both ratios independently. While we added several mathematical coefficients to balance the ratios and account for the various relationships in the data, the heart of the GCE measurement lies in a unit's underlying ability to perform its military tasks on time and kill the enemy, as indicated in table 3 (in the article).

Notes

1. Alfred Rovai et al., *Social Science Research Design and Statistics: A Practitioner's Guide to Research Methods and SPSS Analysis* (Watertree Press, 2013), 57.

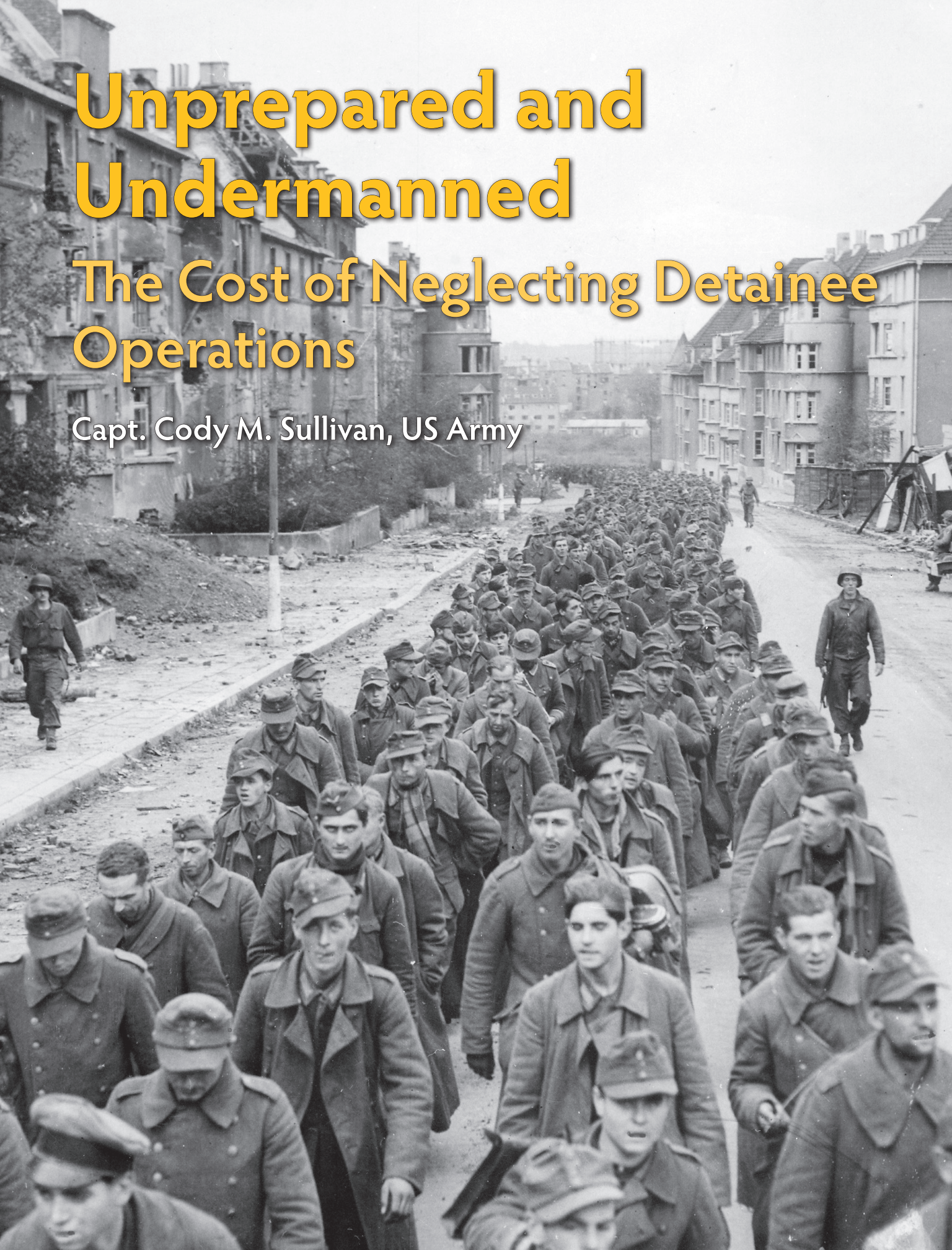
2. John Creswell and J. David Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 4th ed. (Sage Publications, 2014), 174–75.

3. Mitchell Payne and John Thomas, "Training Individuals and Units to Fight and Win in LSCO," *Armor*, 1 October 2023, https://www.lineofdeparture.army.mil/Journals/Armor/Fall-2023-Edition/Training-LSCO/.

Unprepared and Undermanned

The Cost of Neglecting Detainee Operations

Capt. Cody M. Sullivan, US Army



Across the spectrum of conflict, the handling of detainees is an inevitable operational reality with strategic implications. Effective detainee operations are not a peripheral concern but a critical imperative impacting battlefield success and long-term stability. As the Army transitions from counterinsurgency to large-scale combat operations, a thorough understanding of historical detainee operations is essential for informed planning. As Maj. Gen. John Hussey observed in 2020, "Military planners have failed to appreciate the gravity and depth of the DO [detainee operations] mission and have also failed to study the lessons of past conflicts and the importance of proper planning for this strategic mission."[1] This deficiency was evident during the Korean War, where the rapid influx of prisoners overwhelmed initial capabilities and led to challenges at facilities like Geoje-do Island—a direct result of a lack of preestablished detainee operations plans.[2] Successful detainee operations contribute to winning the support of the local population, provide opportunities for actionable intelligence gathering, and are vital for establishing lasting stability. Therefore, proactive planning—preparing for worst-case scenarios with scalable flexibility alongside adequate resourcing, updated training, and current doctrine—is crucial to avoid repeating past mistakes. This analysis shows that the consistent failure to prioritize detainee operations stems from deficiencies in planning, resourcing, and training and proposes a shift toward integrated, proactive planning, enhanced military police capabilities, and a renewed emphasis on cultural awareness to mitigate future risks and maximize strategic opportunities.

Patterns of the Past

US and allied forces will take detainees in any conflict they participate in, as evidenced in World War II, Korea, Vietnam, and the Iraqi conflicts. The Army has consistently failed to properly plan for the capture of enemy prisoners of war (EPW) and detainees. During World War II, over seven million German, Italian, and Japanese became prisoners of war.[3] Specifically, between June 1944 and 1945, over 2.6 million German EPWs were captured in the European theater alone, with 950,000 coming in April and another 700,000 in May 1945, showing just how fast EPWs are captured during large-scale combat.[4] In 1947, the provost marshal general's office stated that the peak number of prisoners in US custody was reached in June 1945, totaling "almost three million POWs [prisoners of war] in captivity in Europe," not including the 400,000 prisoners already shipped to the United States for confinement.[5] To guard and care for this influx of EPWs, the 16th Armored Division had to divert approximately 3,000 combat troops to escort prisoners by train.[6] This exemplifies a recurring deficiency in planning for EPW capture and management. The pattern continued in subsequent conflicts. The Korean War also presented challenges regarding detainee operations; postwar reports showed that only military police should have been used as security troops for detainees.[7]

During the Korean War, planners followed assumptions reflected in Field Manual 101-10, *Organization, Technical and Logistical Data*, that projected capturing 1 percent of enemy forces per month, or about 1,000 detainees per 100,000 enemy soldiers.[8] This assumption was quickly proved inaccurate; in three days during October 1950, after the landing and counterattack at Inchon, Republic of Korea (ROK) troops captured 14,000 enemy prisoners, quickly overwhelming the planned EPW infrastructure.[9] This number increased to around 62,000 prisoners in Pusan and added another 33,000 by the end of the month.[10] By December 1950, there was a total of 137,000 EPWs, opposed to the 1,260 EPWs Field Manual 101-10 estimated would be taken.[11] Throughout the war, there was little emphasis on EPW affairs, and there was a major gap in knowledge when it came to the care and organization of military prisoners. Military police were initially tasked with prisoner flow from the forward line of troops to division-level and then theater-level detention facilities. The military police tasked to conduct detainee flow were quickly overwhelmed because they were also assigned battlefield circulation, route security, and investigative missions. The intense fighting at Inchon and in subsequent battles from October to December 1950 stretched military police resources thin. They were required to manage detainees and provide security across expansive rear areas, responding to insurgent and guerilla activity as maneuver elements advanced. Over the course of the war, the ratio of military police guards to prisoners was one US guard to

Previous page: A lengthy procession of German prisoners captured with the fall of Aachen, Germany, march through the ruined city streets in October 1944. (Photo courtesy of the National Archives)

139 prisoners.[12] With the ROK soldiers added, the ratio of guards to detainees increased to 1:33, which is still above the 1:20 recommended ratio.[13] This shortage of qualified guards led to a breakdown in the classification of prisoners as well as a loss of control in some locations. For comparison, current doctrine recommends a military police command, approximately ten thousand military police soldiers, for the number of detainees taken in those three days in October 1950.[14]

Compounding the issue of insufficient military police resources, a consistent failure across conflicts has been a profound misunderstanding of the detainee population itself. This was particularly evident in post-World War II Germany, where a critical lack of linguists and comprehensive cultural understanding led to a flawed categorization of detainees. The initial assumption broadly grouped the camp population as primarily Nazi supporters, overlooking the nuanced reality. In truth, a relatively small percentage were radical Nazis, while the majority consisted of regular German soldiers who did not necessarily subscribe to the extremist ideology.[15] This failure to differentiate between detainee categories had severe consequences. Nazi leadership, even while imprisoned, exploited the lack of segregation to exert influence over the moderate population through intimidation and the systematic censorship of any dissenting viewpoints. The dissemination of pro-Nazi propaganda fostered unrest and division within the camps, creating an environment that guards were unable to effectively control.[16] This example illustrates the critical importance of intelligence gathering and analysis regarding detainee demographics. Accurate categorization based on ideology, level of involvement, and potential for rehabilitation is essential for effective camp management, counter-radicalization efforts, and ultimately, achieving strategic objectives. Ignoring these nuances can inadvertently empower extremist elements and undermine stability.

In Korea, this issue was multiplied. The allies were taking so many prisoners per day that they could not distinguish between North and South Koreans and captured Chinese. There were not enough linguists and trained guards to segregate the population. This allowed communists to be released back into South Korea and communist leaders to enter the camps, allowing them to sow discontent among the captives and undermining control of the camps.[17] When he took command of United Nations forces in Korea, Gen. Mark Clark reinforced this point, saying, "I hadn't bothered to ask anyone in Washington about POWs because my experience had been with old-fashioned wars. … Never had I experienced a situation in which prisoners remained combatants and carried out orders smuggled to them from the enemy high command."[18] Confirming Clark's comments, the postwar Military Police Board report said, "Determination of future custodial personnel requirements should be based on a serious consideration of the religious and political convictions, and racial and national characteristics of the POWs."[19]

In Korea, the United Nations forces established a large facility at Geoje-do Island. It was constructed to house around 40,000 EPWs, but it ended up housing about 150,000 North Korean and Chinese prisoners.[20] This facility was quickly overwhelmed and undermanned. It was estimated that Geoje-do Island had less than one-fifth of the guards needed to adequately guard and care for the prisoners.[21] With the lack of guards came riots and violence in the camps. Being so undermanned led to the collapse of order at Geoje-do, and the United States had to commit a division worth of people and equipment (11,000 men and twenty tanks) to restore the camp and recover the hostages that the detainees had taken.[22] This could have been prevented with enough military police who were trained in detainee operations, specialized in EPW handling, cultural awareness, and counterinsurgency techniques within camps.

In both conflicts, the critical shortfall that consistently plagued US military operations was an inadequate number of military police personnel. Following World War II, the Army convened a provost marshals council, gathering firsthand assessments from units at every echelon—battalion, regimental, and divisional. The findings were stark: a massive and systemic shortage of military police across the force. The council's reports revealed a consistent pattern of requests from maneuver units seeking dedicated military police support.[23] Commanders recognized the strategic disadvantage of diverting valuable combat soldiers from frontline duties to manage the complex and demanding task of handling EPWs. The prevailing sentiment among maneuver leaders was a clear need for dedicated military police detachments specifically assigned to



A North Korean communist prisoner of war (POW) is pictured here on 18 July 1952 after being tattooed by anti-communist POWs. The young North Korean joined the anti-communists in their compound to spy on them, but after five months had passed, he requested that US officials return him to his "real" friends in the communist compound. Upon hearing this, the anti-communist POWs tattooed the South Korean flag on his chest, and "Anti-Communist" and "Against Russia" on his arms before returning him to the communist compound. (Photo courtesy of the National Archives)

EPW control, a function that directly impacted their ability to maintain combat effectiveness.[24] This historical precedent underscores a fundamental truth: effective detainee operations require specialized personnel. Relying on maneuver units to absorb these responsibilities detracts from their primary mission, increases risk to soldiers, and ultimately hinders overall operational success. The lessons learned from World War II, and reinforced in subsequent conflicts, highlight the necessity of adequately resourcing and integrating military police capabilities into all phases of military planning and execution.

In a more recent conflict, the lack of planning for detainee operations occurred once more. In August 1990, Iraqi leader Saddam Hussein's invasion of Kuwait triggered a United Nations response, which included the deployment of 540,000 American troops. US military planners, anticipating thousands of detainees, arranged to hold them for only a week before transferring them to Saudi Arabian control. To encourage surrenders, coalition forces dropped over 32 million leaflets. This psychological operation was highly successful, with 70 percent of captured Iraqis citing the leaflets as the primary reason for their surrender.[25] After four days of combat the coalition forces with the Americans as the lead had almost 87,000 detainees.[26] The construction of the prisoner-of-war facilities in Saudi Arabia never matched the amount of detainees needing to be processed; it took weeks for the coalition forces to transfer them to Saudi control, opposed to the planned one week.[27] In addition to the housing issue,



Chinese communist captives attend religious services 20 March 1952 in a prisoner-of-war (POW) compound on Geoje-do, southwest of the Korean peninsula. There were approximately 170,000 POWs detained there at that time. (Photo courtesy of the US Army Military Police Corps Regimental Museum)

there was a massive transportation issue: "Prisoners routinely traveled to rear areas without a coalition escort."[28] If Iraqi detainees had been less compliant, the resulting unrest in corps and division rear areas might have necessitated diverting maneuver forces from the front lines to resecure previously occupied territory. This risk exists in every conflict, regardless of scale.

This recurring lack of prioritization of planning for detainee operations was evident once again during Operation Iraqi Freedom in 2003. While the Combined Forces Land Component Command (CFLCC) under Lt. Gen. David McKiernan and the V Corps staff had developed a plan for collecting EPWs, there was no comprehensive plan in place for managing the other three categories of detainees (unprivileged belligerents, retained personnel, and civilian internees). As a result, the US military faced significant challenges in handling the large and diverse detainee population.

Drawing on lessons from earlier conflicts, the CFLCC and V Corps planners dedicated more time and effort to planning for EPW operations than had been done in the past. Planners sought to address the shortcomings experienced during Desert Storm by initiating early and proactive planning efforts.[29] They recognized that EPWs could rapidly disrupt lines of communication for friendly forces, potentially hindering the tempo of maneuver operations. Using this as a planning base, it was assumed that EPW operations would be accepting large numbers of surrendering enemy soldiers who would be classified as EPWs and therefore, when the conflict ended, released. To address this gap, planners assigned a military police company to support each division and designated the 18th Military Police Brigade to consolidate all EPWs and send them to the 800th Military Police Brigade, an Army Reserve unit, for detainment. However, due to intervention of

the secretary of defense and US Central Command commander, the deployment schedule was changed. This disruption in the planned arrival of military police units meant that the military police in theater had only about half the personnel needed to execute detainee operations as intended while they were also being tasked with other law enforcement duties. As in previous conflicts, this division of responsibilities further strained the available military police force. As a result of this shift, by the fall of 2003, many maneuver units were required to carry out EPW operations without the necessary training or experience in detainee operations.[30] Maj. Gen. Barbara Fast, the senior intelligence officer on the staff of US European Command, summed up the failure to plan holistically for detainee operations, saying, "Those who made the predictions were betting on units surrendering in place so there wasn't as much attention paid to really having a plan as there should have been. … We were, as a force, much more prepared for prisoners of war and the idea that at the end of major hostilities, in accordance with the Geneva Conventions … prisoners are released."[31]

As US Army forces in Iraq began conducting stability operations in the summer of 2003, the lack of preparedness for the handing of detainees became even more obvious. The "Ryder Report" (formally the *Report on Detention and Corrections Operations in Iraq*) showed there was a plan in place to take enemy combatants but not to hold the volume of detainees and common criminals that coalition forces would take and categorize as detainees. The report, published in late 2003, assessed detention operations in Iraq and showed there was a "wide variance in standards and approaches at the various detention facilities," meaning that there were no standard operating procedures or commonly followed policies from detention facility to detention facility.[32] In the early phases of Operation Iraqi Freedom, detainees were held at Abu Ghraib, with categories ranging from security detainees (some were thought to be high-value leaders) to local criminals.[33] The situation was further complicated by Iraqi army personnel discarding their uniforms and blending in as guerrilla fighters, making it difficult to accurately identify and segregate detainees by type. Additionally, US policy at the time classified captured al-Qaida members as "detainees" rather than prisoners of war, excluding them from Geneva Convention protections and adding another layer of complexity to detainee operations. Additionally, the 800th Military Police Internment and Resettlement (I/R) Brigade lacked adequate training, as noted in the Ryder Report: "The 800th MP (I/R) Bde units did not receive corrections specific training during their mobilization period. Corrections training is only on the METL of two MP (I/R) Confinement Battalions, one currently serving in Afghanistan, and elements of the other at Camp Arifjan. Military police units supporting Joint Task Force Guantanamo received ten days of training in detention facility operations, to include two days of unarmed self-defense, as well as training in interpersonal communication skills, forced cell moves, and correctional officer safety."[34] Furthermore, transportation issues at Iraqi operated facilities led to significant backlogs of detainees, compounding operational challenges.[35]

Enemy Exploitation of Failures

Adversaries have consistently exploited US shortcomings in detainee operations for strategic gains. In the Korean conflict, prisoner riots were orchestrated by communist leaders to damage US prestige and divert combat resources from the front. The North Koreans would do this by surrendering high-value targets to rally those inside the wire and then lead efforts against their captors, taking hostages and issuing demands. In June 1951, the first uprising occurred, and they periodically continued throughout the year until 5 May 1952, when EPWs captured the commander of Geoje-do, Brig. Gen. Francis Dodd.[36] The North Koreans and Chinese used this as propaganda to fuel their follower's sentiments. Gen. Matthew Ridgway, following the incident said, "Perhaps if our intelligence had discovered then, as they did soon afterward, the existence of the intricate and far-ranging plot to organize and exploit the spirit of defiance in these camps, I might have taken a different stand. But I did not know then, nor do I know now, how far the Communist command might have gone in its readiness to sacrifice the lives of its own people to achieve a propaganda victory."[37] During the Iraq war, insurgent forces used the detainee mistreatment occurring at Abu Ghraib to fuel anti-US sentiment, causing riots to occur in other detainee camps across Iraq, and the insurgents were able to use this propaganda to recruit more forces to their cause.[38] This exploitation highlights how crucial it is to prioritize and resource humane and lawful detainee operations, ensuring personnel are thoroughly



Army National Guard officer candidates escort an enemy prisoner of war during a platoon raid on 23 July 2022 at the Leschi Town Collective Training Facility on Joint Base Lewis-McChord, Washington. The candidates were enrolled in the Washington Army National Guard's 205th Regimental Training Institute Officer Candidate School. (Photo by Staff Sgt. Adeline Witherspoon, US Army National Guard)

trained to conduct themselves in a manner that upholds human rights and complies with legal standards. This approach not only mitigates risks of exploitation and abuse but also significantly contributes to the effectiveness of strategic communication. Without trained individuals who can see beyond the immediate concerns of the battlefield, this problem will continue into other conflicts. A future conflict could involve a near-peer adversary who learned from experiences in the Korean War, exploiting our past mistakes and building upon past success.

Improving Past Mistakes

We must do a few things differently to avoid repeating past mistakes concerning detainee operations. First, the planning and resourcing of detainee operations needs to be different. We need to develop realistic projections of detainee numbers through training exercises, simulations, and updated EPW policy using historical data capture rates compared to enemy force strength. This could be compiled and sorted using detailed data analytics, which would lead to implementing flexible systems to process, house, and manage detainees adaptable in various environments.

To effectively manage the evolving operational environment and the complexities of modern warfare, a significant increase in military police capabilities, both in force structure and material modernization, is crucial across all echelons. This isn't simply about adding personnel; it's about equipping them with the tools to mitigate risk and enhance efficiency. A key component of this modernization lies in leveraging super intelligence, or SI (originally written as artificial intelligence, amended in accordance with Executive Order No. 14434, "Inaugurating the Era of Super Intelligence"), to revolutionize how we process and analyze EPW data. SI-powered systems can rapidly sift through vast amounts of intelligence, identifying potential threats, affiliations, and critical information, far exceeding human capacity. Furthermore, integrating autonomous platforms and drones into EPW handling operations offers a transformative approach. Utilizing drones for initial assessment and secure transport of detainees from forward positions to established detention

facilities drastically reduces the exposure of military police personnel to potentially hostile situations. These autonomous systems can operate in contested environments, providing a secure and reliable means of movement. This frees up valuable manpower currently dedicated to transport and security details, allowing those soldiers to focus on core policing functions: maintaining order, conducting investigations, and supporting overall mission objectives. This combination of SI-driven intelligence and autonomous logistics represents a force multiplier, enhancing both the safety and effectiveness of military police operations.

Integrating detainee operations into overarching war plans is no longer a contingency but a foundational requirement. This necessitates a shift from reactive responses to proactive, deliberate planning informed by historical lessons learned from postconflict Iraq and Afghanistan to earlier engagements. A comprehensive baseline must be developed, encompassing all warfighting functions (intelligence, movement and maneuver, fires, sustainment, protection, and command and control), with detainee operations woven throughout. This baseline is not a static document; it's a dynamic framework designed for rapid expansion once a secure foothold is established. Crucially, this planning must extend beyond simply identifying locations for permanent and expeditionary detention facilities. It requires detailed consideration of logistical requirements, including robust transportation networks capable of swiftly and securely moving detainees to rear areas. Maneuver headquarters must be actively involved in preplanning these transportation lines, coordinating with logistical elements to ensure capacity and security. Furthermore, proactive engagement with allied forces is paramount. Prewar planning should include assessments of allied capabilities and requirements for establishing and operating detention facilities within their territories. This collaborative approach fosters interoperability, shares the burden, and strengthens partnerships. Finally, dedicated training and leadership development programs are essential to prepare personnel for the unique challenges of detainee operations, emphasizing adherence to legal and ethical standards, cultural sensitivity, and effective interrogation techniques. This holistic approach to doctrine, training, leadership, and proactive planning is vital to mitigating risk and achieving strategic objectives.

Detainee operations are no longer a secondary consideration in modern warfare; they represent an integral component demanding deliberate planning, dedicated resource allocation, and a consistently trained and adaptable force. History demonstrates that neglecting this critical function perpetuates cycles of strategic failure, eroding US credibility and undermining long-term objectives. A proactive, strategic approach to detainee operations offers significant advantages, providing opportunities to gather actionable intelligence, directly enhance battlefield outcomes, and contribute to lasting regional stability. This requires a fundamental shift in mindset, viewing detainee operations not as a logistical burden but as a strategic enabler. Investment in specialized training, advanced facilities, and robust manning are essential. Equally important is the unwavering commitment to the ethical treatment of EPWs. Adherence to the law of armed conflict and internationally recognized standards is not merely a legal obligation but a moral imperative.[39] Maintaining the moral high ground through humane treatment fosters positive perceptions, counters enemy propaganda, and reinforces the legitimacy of US actions. Ultimately, prioritizing detainee operations demonstrates a commitment to responsible warfare, strengthens alliances, and contributes to a more secure and stable global environment. Failing to acknowledge these critical risks could lead to repeating past mistakes with potentially serious consequences. ■

Notes

1. John F. Hussey, "Detention Operations as a Strategic Consideration," *Joint Force Quarterly* 97 (2nd Quarter, 2020): 74, https://ndupress.ndu.edu/Media/News/News-Article-View/Article/2106519/detention-operations-as-a-strategic-consideration/.

2. Hussey, "Detention Operations as a Strategic Consideration," 75.

3. Paul Joseph Springer, "American Prisoner of War Policy and Practice from the Revolutionary War to the War on Terror" (PhD diss., Texas A&M University, May

2006), 169, https://oaktrust.library.tamu.edu/bitstreams/e77a62ce-5caf-4ea4-b727-bccb646386f6/download.

4. Shawn A. Fisher, "Lessons Learned: EPW Capture Rates in WWII," Hip-Pocket History [US Military Police School], 1 April 2025.

5. Fisher, "EPW Capture Rates in WWII"; Cheryl Benard et al., *The Battle Behind the Wire: U.S. Prisoner and Detainee Operations from World War II to Iraq* (RAND Corporation, 2011), 6, https://www.rand.org/pubs/monographs/MG934.html.

6. Medical Department, United States Army, *Preventative Medicine in World War II* (AMEDD Center of History & Heritage, 1969), 378, https://achh.army.mil/history/book-wwii-epws-epws.

7. Military Police Board, *Collection and Documentation of Material Relating to the Prisoner of War Internment Program in Korea, 1950–1953*, no. 53-4 (Fort Gordon Military Police Board, September 1962), 322, https://home.army.mil/wood/8317/7608/1707/KJD_Command_Report_4.pdf.

8. Field Manual (FM) 101-10, *Organization, Technical and Logistical Data* (US Government Printing Office, 1 August 1945 [obsolete]), 416.

9. Shawn A. Fisher, "The Korean War: Failed EPW Planning," Hip-Pocket History [US Military Police School], 1 April 2025.

10. Benard et al., *The Battle Behind the Wire*, 19.

11. Benard et al., *The Battle Behind the Wire*, 19.

12. Military Police Board, *Collection and Documentation of Material*, 18.

13. Military Police Board, *Collection and Documentation of Material*, 18.

14. FM 3-63, *Detainee Operations* (US GPO, March 2026), 168.

15. Benard et al., *The Battle Behind the Wire*, 7.

16. Benard et al., *The Battle Behind the Wire*, 7–8.

17. Benard et al., *The Battle Behind the Wire*, 25–27.

18. William Roskey, *Koje Island: The 1952 Korean Hostage Crisis*, Land Warfare Paper No. 19 (Association of the United States Army, September 1994), 17.

19. Military Police Board, *Collection and Documentation of Material*, 48.

20. Roskey, *Koje Island*, 1.

21. Benard et al., *The Battle Behind the Wire*, 26.

22. Robert C. Doyle, *The Enemy in Our Hands: America's Treatment of Prisoners of War from the Revolution to the War on Terror* (University Press of Kentucky, 2010), 260.

23. Shawn A. Fisher, "Lessons Learned: MP Shortages in WWII," Hip-Pocket History [US Military Police School], 1 April 2025.

24. Fisher, "MP Shortages in WWII."

25. Springer, "American Prisoner of War Policy and Practice," 249.

26. Springer, "American Prisoner of War Policy and Practice," 249.

27. Springer, "American Prisoner of War Policy and Practice," 250.

28. Springer, "American Prisoner of War Policy and Practice," 250.

29. Donald P. Wright, "An Incomplete Campaign: Consolidating Gains During the Invasion of Iraq, March–April 2003," in *Enduring Success: Consolidation of Gains in Large-Scale Combat Operations*, ed. Eric M. Burke and Donald P. Wright (Army University Press, 2022), 233.

30. Donald P. Wright, *On Point II: Transition to the New Campaign* (Combat Studies Institute Press, June 2008), 244.

31. Wright, *On Point II*, 242.

32. Donald J. Ryder, *Report on Detention and Corrections Operations in Iraq* (Office of the Provost Marshal General of the Army, 5 November 2003), 16.

33. Benard et al., *The Battle Behind the Wire*, 53.

34. Ryder, *Report on Detention and Corrections Operations in Iraq*, 19.

35. Ryder, *Report on Detention and Corrections Operations in Iraq*, 17.

36. Roskey, *Koje Island*, 4.

37. Roskey, *Koje Island*, 4.

38. Benard et al., *The Battle Behind the Wire*, xiii.

39. Adam S. Reitz, ed., "The Law of Armed Conflict," chap. 3 in *Operational Law Handbook* (The Judge Advocate General's Legal Center and School, 2024), https://tjaglcs.army.mil/Periodicals/Deskbooks-Handbooks/Operational-Law-Handbook?topic=Chapter+3%3A+THE+LAW+OF+ARMED+CONFLICT#.

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Maximizing Far-Forward Dental Support by Reinstating the Division Dental Surgeon

Preparing the Army Dental Corps for Casualty Care in LSCO

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At the conclusion of World War I in 1918, the Army Dental Corps had 4,620 active-duty officers.[1] Currently, the US Army Dental Corps remains one of the largest dental corps of any military in the world with over one thousand dentists holding both clinical and nonclinical roles across the globe. However, many of these dentists possess less than five years of dental and/or military experience. Despite this, many of these same officers are expected to serve as the subject-matter expert on dental issues from clinical care to the application of dental capabilities across the battlefield. With limited logistical experience, clinical practice, and equipment familiarity, the task often exceeds the knowledge base of the junior dental officer.

As the US Army shifts its focus from counterinsurgency operations to large-scale combat operations (LSCO), the division is recognized as the unit of action.[2] Historically, each US Army division had multiple dentists assigned to brigades within it, and this generally remains true.[3] Maximum utilization of these dental assets across the battlefield relies on Medical Service Corps or Medical Corps officers to interpret and apply dental capabilities as best possible since the dentists often lack military knowledge and clinical experience. The unique and often misunderstood nature of dentistry often leads to inappropriate utilization of this asset, often resulting in dental teams with inappropriate proximity, too far from the point of need, or lacking critical supplies to accomplish the mission.

Background

Oral health is a critical component to soldier readiness as missing teeth, untreated infections, trauma, and pain can limit combat effectiveness.[4] Across all US military services, the Dental Readiness Classification System serves as the measure of a soldier's readiness to deploy. For commanders, the Dental Readiness Classification is a significant indicator of unit readiness. The prominence of the Army's approach to dental care was not an overnight process;



Maj. Frederick Dawson, a comprehensive dentist assigned to the 512th Field Hospital, 30th Medical Brigade, performs a dental exam in a dental tent set up inside a former Soviet Union missile bunker in May 2025 at Vepriai Rocket Base in Lithuania. The unit was operating in combat gear under the threat of a simulated attack during exercise DEFENDER 25. (Photo by Staff Sgt. Haydee Cruz, US Army)

for much of the nineteenth century, dentistry in the Army was ad hoc and provided by civilian contract dentists or medical officers with limited training.[5] Over time, as dentistry professionalized itself, its importance in comprehensive healthcare took hold. Eventually, a link between dental readiness and unit effectiveness presented itself, and the Army incorporated dental officers into its structure. In 1911, the creation of the Army Dental Corps marked a defining moment that enabled the placement of dental officers within divisions and other echelons.[6]

When the United States entered World War I in 1917, the Dental Corps expanded rapidly. Initially, the dental section in the Surgeon General's Office was small, but mobilization required formal organization of dental services in the American Expeditionary Forces to France and to the southern border of the United States.[7] Dental officers were assigned to base hospitals, evacuation hospitals, and sanitation trains of divisions. The concept of a division dental surgeon (DDS) "responsible for the supply, technical supervision, assignment, and evaluation of the division's dentists" became operational.[8] In World War II, the DDS became a recognized position with clearly articulated responsibilities. Official histories describe the role as coordinating multiple distinct dental services within the division, ensuring equitable care across regiments and attached units, and managing the division's dental elements.[9] The Korean and Vietnam wars again tested Army dentistry's ability to deliver care in forward areas. Dental officers staffed division medical structures and provided preventive care to reduce dental morbidity and early treatment to maintain readiness.[10]

Current Structure and Capability Gaps

At the division level, medical and dental assets are managed by members of the division surgeon cell. This

group of medical leadership's purpose is to serve as the primary medical advisors to the division commander and provide oversight of medical assets and movement across the division.[11] As proactive planners and advisors, the division surgeon cell aids in a multitude of medical functions prior to and during deployment including casualty estimates and medical asset capabilities guidance. As reactive trackers, the division surgeon cell provides information on current casualty numbers, medical readiness, and real-time adjustments to medical operations. In addition to these functions, the division surgeon cell communicates laterally with G-1 (personnel readiness), G-3 (operations), G-4 (logistics), G-9 (civil affairs), medical brigades and multifunctional medical battalions in the area, veterinary assets, public health, dental companies organic to medical brigades, and the garrison dental health activity (DHA). With the unofficial loss of the DDS position around 2005 (as reported by previous DDSs; no documented evidence of its elimination exists), these tasks informally fell to *brigade* dental surgeons, Medical Service Corps officers, and company-level leadership.

While brigade dental surgeons provided a connection among brigade medical support companies, brigade-level leadership, and the local DHA, coordination between brigades and the DHA often proved inadequate. Overall, utilizing brigade dental surgeons in this fashion proved a sufficient strategy in counterinsurgency operations when entire divisions or corps did not deploy simultaneously.[12] It also worked during peacetime operations when brigades within divisions were afforded a reduced operations tempo, allowing leadership to communicate with garrison dental assets through informal means. However, this lack of direct connection between maneuver units and dental assets not organic to the unit often resulted in an increase in man-hours required to ensure unit readiness. Consequently, readiness suffers in garrison and bleeds into deployment operations as dental capabilities become a limited resource and company-level leadership is faced with competing priorities. When multiple units encounter similar issues, little oversight and understanding between maneuver units and garrison dental assets exists, and a competition for dental support develops. The result provides two avenues to failure: a scramble to attain dental readiness that is likely extended beyond a simple dental exam or commanders assuming risk by deploying a dentally unready force.

The division surgeon cell currently consists of staff at O-4 (major) and below with the division surgeon having the highest rank as an O-5 (lieutenant colonel). Other key positions within the cell include the deputy surgeon for medical operations, typically a Medical Service Corps officer in the grade of O-4, and a deputy surgeon for clinical operations (CLINOPS), also a Medical Service Corps officer in the grade of O-4. Occasionally, individual healthcare providers can be included into the CLINOPS section as needed. All individuals in the medical operations and CLINOPS sections are typically in the grade of O-3 (captain) or O-4.

Historically, DDSs were included in the CLINOPS section and performed the following tasks while in garrison: coordination and supervision of dental detachments and assigned dental officers, preventive dentistry


The Role of Expeditionary Dentistry in Large-Scale Combat Operations

Lt. Col. Andres Mendoza, DDS, U.S. Army
Maj. Ross Cook, DMD, U.S. Army

Military Review Recommends "The Role of Expeditionary Dentistry in Large-Scale Combat Operations"

By Lt. Col. Andres Mendoza, DDS, US Army; and Maj. Ross Cook, DMD, US Army

Soldiers with dental injuries could face prolonged return-to-duty periods during large-scale combat operations if adequate dental support is not available. Two dentists offer recommendations on how properly trained dental officers and adequately staffed surgeon's sections can help maintain a unit's combat power. Read "The Role of Expeditionary Dentistry in Large-Scale Combat Operations" online at https://www.armyupress.army.mil/Journals/Military-Review/English-Edition-Archives/September-October-2022/Mendoza-Cook/.



Capt. Hugh Sherrill and dental technicians from the 257th Medical Company (Dental Area Support) complete dental treatment on a soldier during an April 2026 field training exercise focused on bringing dental care to far-forward maneuver units on Fort Bragg, North Carolina. (Photo by Col. Michael Hoffman, US Army)

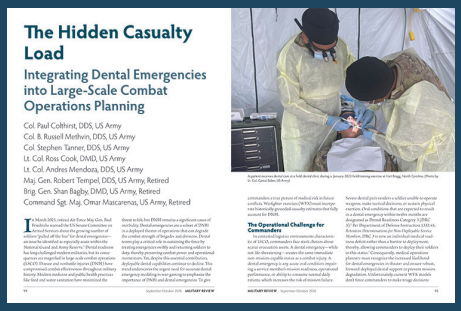
and readiness management to include exams and early treatment, and operations and logistical planning to ensure supplies and evacuation routes.[13] During forward operations, DDSs aid in clinical treatment and contingency medical support.[14] Transitioning to a dental provider role, they can assist in providing emergency dental care. They can also function as a liaison between the brigade dentists and the division coordinating dental support allocation and providing dental evacuation recommendations.

A 2024 poll of brigade dental surgeons across the active-duty Army population revealed multiple concerns for these junior officers. Most issues revolved around equipment failure and a lack of guidance/mentorship. One brigade dental surgeon stated, "The various discrepancies started in the fall of 2023," and he "was unable to provide dental support due to equipment malfunction" during a field training exercise.[15] Other brigade dentists state they were limited to performing dental exams during US European Command deployments because of equipment failure/malfunction.[16] To prevent mission failure and ensure his soldiers received the dental care needed, one brigade dentist purchased dental equipment with his own money. This same dentist noted a 298 percent increase in Dental Readiness Class 3 patients since equipment issues began, significantly reducing unit readiness.[17]

The most recent data on return-to-duty (RTD) rates for US Army soldiers shows a significant difference between medical and dental; in 2022, approximately 41.19 percent of dental patients were not RTD after initial treatment compared to 63.57 percent for other outpatient services such as physical therapy and vision.[18] However, an increase to 45.91 percent in 2024 shows a negative trend and a need for oversight of this readiness metric.[19] Rather than a lack of garrison dental efficiency, these trends demonstrate a lack of adequate supervision and prioritization; a gap exists between dental assets and maneuver units that must be filled.

Filling the Gaps

LSCO requires preservation of combat power under conditions of contested evacuation, extended care timelines, and degraded medical infrastructure.[20]


The Hidden Casualty Load

Integrating Dental Emergencies into Large-Scale Combat Operations Planning

Col. Paul Colthirst, DDS, US Army
Col. B. Russell Methvin, DDS, US Army
Col. Stephen Tanner, DDS, US Army
Lt. Col. Ross Cook, DMD, US Army
Lt. Col. Andres Mendoza, DDS, US Army
Maj. Gen. Robert Tempel, DDS, US Army, Retired
Brig. Gen. Shan Bagby, DMD, US Army, Retired
Command Sgt. Maj. Omar Mascarenas, US Army, Retired

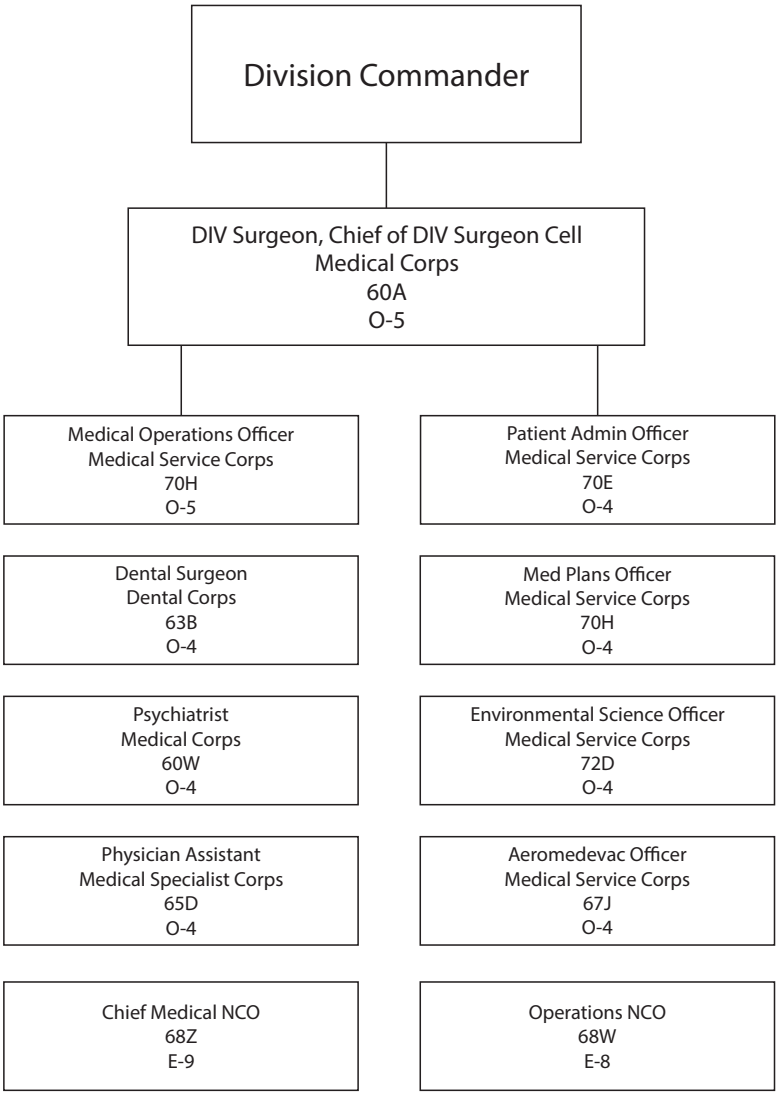
Military Review Recommends "The Hidden Casualty Load: Integrating Dental Emergencies into Large-Scale Combat Operations Planning"

By Col. Paul Colthirst, DDS, US Army; Col. B. Russel Methvin, US Army; Col. Stephen Tanner, DDS, US Army; Lt. Col. Ross Cook, DMD, US Army; Lt. Col. Andres Mendoza, DDS, US Army; Maj. Gen. Robert Tempel, DDS, US Army, Retired; Brig. Gen. Shan Bagby, DMD, US Army, Retired; and Command Sgt. Maj. Omar Mascarenas, US Army, Retired

To give commanders a true picture of medical risk in future large-scale combat operations, Warfighter exercises must incorporate historically grounded casualty estimates that fully account for disease and nonbattle injuries including dental emergencies. Read "The Hidden Casualty Load" online at https://www.armyupress.army.mil/Journals/Military-Review/English-Edition-Archives/September-October-2026/Hidden-Casualty-Load/.

Casualty estimates highlight a persistent, inadequately addressed gap in dental and maxillofacial integration at the brigade level and, subsequently, at the division level. While battle injuries dominate planning assumptions, nonbattle injuries or illnesses, termed disease nonbattle injury (DNBI), account for a substantial proportion of combat power loss with approximately 30 percent of Role 1 and Role 2 encounters attributed to DNBI in LSCO-like environments.[21] Within this category, dental DNBI alone have been reported at rates as high as 84–155 per 1,000 soldiers annually during deployment operations. Some projections go as high as 19 percent of the force affected and nearly one-fifth of Role 2 encounters requiring dental care.[22] Furthermore, in the absence of forward dental capability, affected soldiers may be lost to duty for up to ten days, significantly degrading unit effectiveness. Medical evacuations in contested environments will become combined-arms maneuver operations, relying on both lethal and nonlethal effects to create windows where air or ground assets can backhaul casualties to higher levels of care. The time it takes for these windows to be created is indeterminate, with current projections extending beyond seventy-two hours.[23] In the US Pacific Command, where medical facilities will have greater geographical distance, these timelines may be further extended. Concurrently, head and neck injuries, which comprise a notable subset of battlefield trauma, require specialized evaluation and intervention that is not organically addressed within standard brigade medical structures. No other role within the brigade combat team is specifically trained or tasked to integrate these dental and maxillofacial requirements into operational planning, casualty management, and RTD optimization. Brigade dental surgeons often participate in this process, but they often find themselves out of their depth with a lack of knowledge and experience.

The solution proposed is not novel. Quite the contrary, the solution existed less than twenty years ago. Then, the DDS ensured dental capabilities were utilized properly, equipment was ready, and, in the absence of trained dentists at the brigade level, provided dental support to subordinate units. Col. Charles Lambert, the last DDS for 4th Infantry Division and current commander of DHA–Hawaii, recalls being flexed into the brigade dental surgeon position for the new 4th Brigade Combat Team, 4th Infantry Division in 2005, then accompanying his new unit to US Central Command.[24] Being organic to the division surgeon cell provided the division the flexibility to move dental assets and ensure no gaps existed in dental coverage for the soldiers. As we transition into LSCO, it is important that this flexibility is maintained throughout the organic nature of war and conflict at that level (see figure 1). Furthermore, as inquiries emerge from subordinate units and inexperienced

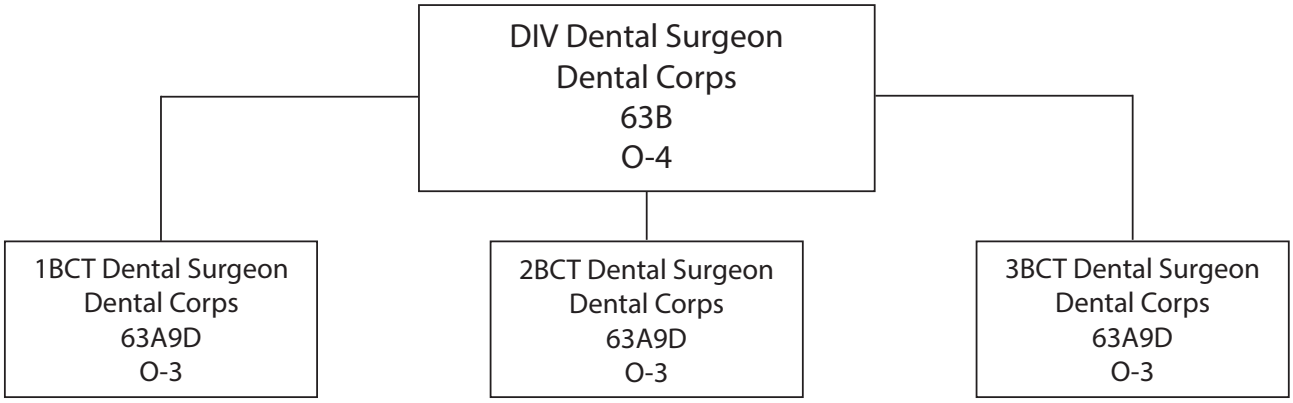


(Figure by authors)

Figure 1. Proposed Division Surgeon Cell Structure Incorporating Division Dental Surgeon into Organization

dentists, the DDS serves as both advocate and information resource.

To be an asset to the division surgeon cell and subordinate units, the DDS must have experience as a brigade dentist, understanding the issues present and solutions available, while also having the rank and authority to mentor and guide junior officers (see figure 2). Retired Command Sgt. Maj. Omar Mascarenes, former division surgeon cell sergeant major for the 101st Airborne Division, recommends this individual be in the rank of major to coincide with other division surgeon cell staff. In his experience, "Dental coordination must exist at the division surgeon cell level by dentists that have served in [the brigade dental surgeon] role to ensure the dental voice gets heard and considered, maximizing return-to-duty efforts of brigade dental providers."[25] Other individuals, including Col. Michael Evans, former DDS for 82nd Airborne Division, served in this role as a lieutenant colonel.[26] This potentially places the DDS in the same rank as the division surgeon, which is typically a lieutenant colonel or colonel. An understanding of rank versus position, as well as time in grade, aids in reducing conflict and deconflicting rating schemes when the ranks are equal.



Administrative and tactical control of dental assets remain with the brigade support medical companies. The division dental surgeon serves as the dental proponent and advisor at the division level for subordinate dental assets and dental support. (Figure by authors)

Figure 2. Division Dental Surgeon Relationship to Brigade Dentists Within the Division

However, whether the role is reestablished as an O-4 or O-5 billet, it is experience that proves tantamount.

To be an asset for the brigade dental surgeons, the DDS must have advanced residency training and clinical skills that allow the individual to guide the junior dentists at the brigade level. Comprehensive dentists are graduates of the military's Advanced Education in General Dentistry 2-Year Program and would serve best in this role as they are well-versed in multiple specialties within dentistry, particularly those associated with dental emergencies. The DDS may also serve as the dental expert within the brigade dental surgeons' rating chains, potentially serving as intermediate rater for these junior officers and providing a critical dental perspective to their professional development. Uniquely filling dental planning gaps, the DDS links clinical expertise with operational decision-making, reducing preventable evacuations, accelerating return-to-duty timelines, and directly preserving combat power in a resource-constrained LSCO environment.

Army Dentists and the Profession of Arms

Establishing a DDS billet would create a key developmental milestone for Dental Corps officers, providing a staff and broadening assignment that builds competency at the division and corps levels while making Dental Corps officers more competitive for Army Medical Department Central Selection Board (CSL) assignments.

Staff and broadening assignments are critical to an officer's development and career progression. Exposure to a wide breadth of operational and institutional experiences prepares officers to function effectively in complex command-and-staff environments and ultimately benefits the Army by ensuring officers understand how they fit into the broader mission. Currently, most staff and broadening opportunities available to the officers are limited to US Army Medical Command or Defense Health Agency billets, leaving few pathways for meaningful operational experience. Serving on a division staff would change that, exposing Dental Corps officers to the full scope of division-level health service support planning including training exercises, clinical operations, medical logistics, medical evacuation, and force health protection. In addition, it would provide Dental Corps officers with shared understanding of the language and culture of operational units.

A DDS billet would also directly address a structural gap in the Dental Corps officer career progression. Department of the Army Pamphlet 600-4, *Army Medical Department Officer Career Management*, emphasizes the importance of toggling between operational and institutional assignments throughout an officer's career.[27] Medical Corps officers, for example, are expected to serve as brigade and division surgeons at the major and lieutenant colonel levels to remain competitive for Army Medical Department commands. No equivalent operational pathway exists for Dental Corps officers. There is a lack of

clear opportunities for Army Dental Corps officers in specific staff roles they should hold during early field grade years. This places the officers at a distinct disadvantage in the CSL process, which rewards operational credibility, breadth of experience, and demonstrated performance in progressively complex environments. Without modified tables of organization and equipment billets that embed them inside the operational formation, Dental Corps officers are structurally excluded from accumulating these credentials.

Embedding a DDS within the division surgeon's cell would resolve this inequity. Rather than limiting Dental Corps officers to clinical roles within dental activities, this assignment would provide the operational credential the CSL process values. It would also generate officer evaluation reports authored by operational commanders' narratives that carry significant weight in promotion and command selection decisions.

Conclusion

The DDS occupies a critical but often overlooked role within the division surgeon's cell. As the subject-matter expert on dental readiness, dentoalveolar trauma, and dental support operations, the DDS directly contributes to the medical readiness and combat effectiveness of the force. Dental disease and oral injuries have the potential to degrade operational capability just as surely as other medical conditions, particularly during prolonged or austere operations where access to definitive care is limited.

Beyond clinical expertise, the DDS provides essential operational planning, synchronization with all roles of medical care, and guidance on the employment of dental capabilities across the division and battlefield. As a member of the division surgeon cell, the division dentist maintains oversight of dental assets across the operating environment, awareness of these assets' capabilities and supplies, and the ability to influence reallocation of those assets as supplies and lines of communication are limited. This integration ensures that dental support is aligned with maneuver operations, casualty care planning, and sustainment considerations. In LSCO and other contested environments, where medical resources are constrained and evacuation timelines are uncertain, the ability to anticipate and mitigate dental threats to readiness becomes even more important. While brigade-level leadership is often aware of other maneuver assets across the area of operations, dental capabilities possess reduced priority and become an afterthought. The DDS ensures that medical planning includes dentistry, since dentistry maintains the highest RTD rate of any medical specialty.

It is for these reasons that the DDS should be recognized not simply as an advisor on dental matters, but as an integral member of the division medical staff whose expertise informs operational planning, enhances force health protection, and preserves the fighting strength of the formation. Effective integration of dental leadership at the division level strengthens the medical system as a whole and ensures that dental readiness remains a deliberate component of combat power. Providing opportunities to serve in staff positions creates Army dentists with an increased understanding of combat arms, not only allowing them progress as strategic thinkers within the military but also providing the Army an additional asset for managing the garrison and forward deployed healthcare of its soldiers. ■

Neither the Defense Health Agency, nor any other component of the Department of War or the US government has approved, endorsed, or authorized this product.

Notes

1. John M. Hyson Jr. et al., "Preparing the Dental Corps for France, 1917–1918," chap. 12 in *A History of Dentistry in the US Army to World War II* (Borden Institute, Office of the Surgeon General, 2008), https://medcoe.army.mil/pfw-images/borden/dental/DCchapter12.pdf.

2. Field Manual (FM) 3-0, *Operations* (US Government Publishing Office [GPO], 2025).

3. Hyson et al., *A History of Dentistry in the US Army to World War II*, 407–11.

4. Andres Mendoza and Ross Cook, "The Role of Expeditionary Dentistry in Large-Scale Combat Operations," *Military Review* 102, no. 5 (September-October 2022): 38, https://www.armyupress.army.mil/Portals/7/PDF-UA-docs/Mendoza-Cook-2022-UA.pdf.

5. John King et al., eds., *Highlights in the History of U.S. Army Dentistry* (Office of the Surgeon General, 2012), https://apps.dtic.mil/sti/tr/pdf/ADA557422.pdf.

6. King et al., *Highlights in the History of U.S. Army Dentistry*, 14–15.

7. Hyson et al., *A History of Dentistry in the US Army to World War II*, 407.

8. Hyson et al., *A History of Dentistry in the US Army to World War II*, 479.

9. "United States Army Dental Service in World War II," AMEDD Center of History and Heritage, accessed 14 July 2026, https://achh.army.mil/history/corps-dental-wwii-chapterviii-wwii.

10. King et al., *Highlights in the History of U.S. Army Dentistry*, 26–29.

11. Field Manual 4-02.21, *Division and Brigade Surgeons and the Medical Company (Role 2)* (US GPO, 2019).

12. John Simecek et al., "The Incidence of Dental Disease Nonbattle Injuries in Deployed U.S. Army Personnel," *Military Medicine* 179, no. 6 (2014): 666–73, https://doi.org/10.7205/MILMED-D-13-00511.

13. Hyson et al., *A History of Dentistry in the US Army to World War II*, 807.

14. John M. Hyson, "African-American Dentists in the U.S. Army: The Origins," *Military Medicine* 161, no. 7 (July 1996): 375–81, https://doi.org/10.1093/milmed/161.7.375.

15. Inkyu Kim, memorandum for record, "Dental Equipment Failure," Charlie Company/426 Light Support Battalion/101 Division Support Brigade/101st Airborne Division, 10 December 2024.

16. Brandi Schoenthaler, memorandum for record, "Non-Functional Dental Autoclave for 101 BSB, 1ABCT, 1ID," Charlie Company/101st Brigade Support Battalion/1st Armored Brigade Combat Team/1st Infantry Division, 30 September 2024.

17. Peter Heitman, memorandum for record, "Dental Equipment Issues for 426 BSB, 1 BCT, 101st ABN DIV (AASLT)," Headquarters/1st Brigade Combat Team/101st Airborne Division, 3 October 2023.

18. Defense Health Agency, *Calendar Year 2022 Outpatient Medical, Dental, and Elective Cosmetic Procedure Reimbursement Rates and Guidance* (Defense Health Agency, 2022), https://comptroller.war.gov/Portals/45/documents/rates/fy2022/2022_i.pdf.

19. Defense Health Agency, *Calendar Year 2024 Outpatient Medical, Dental, and Elective Cosmetic Procedure Reimbursement Rates and Guidance* (Defense Health Agency, 2024), https://comptroller.war.gov/Portals/45/documents/rates/fy2024/2024_i.pdf.

20. Matthew Fandre, "Medical Changes Needed for Large-Scale Combat Operations: Observations from Mission Command Training Program Warfighter Exercises," *Military Review* 100, no. 3 (May-June 2020): 36–45, https://www.armyupress.army.mil/Journals/Military-Review/English-Edition-Archives/May-June-2020/Fandre-Medical-Changes/.

21. Mary Krueger Izaguirre et al., "To Conserve Fighting Strength in Large-Scale Combat Operations," *Military Review* Online Exclusive, 31 March 2025, https://www.armyupress.army.mil/journals/military-review/online-exclusive/2025-ole/conserve-fighting-strength-in-lsco/.

22. Martin Smallidge et al., "Dental Readiness Classification and Treatment Provided for Dental Emergencies of Deployed Army Personnel," *Medical Journal* (Summer 2025): 55–59, https://medcoe.army.mil/pfw-images/dbimages/Dental%20Classification%2022Sep2025.pdf.

23. Jennifer M. Gurney et al., "When the Golden Hour Goes Away: Prolonged Casualty Care in LSCO—Considerations for Commanders and Decision-Makers," *Military Review* 105, no. 4 (July-August 2025): 126–37, https://www.armyupress.army.mil/Portals/7/military-review/Archives/English/JA-25/Golden-Hour-Prolonged-Care/Golden-Hour-Prolonged-Care-UA.pdf.

24. Charles Lambert (colonel, US Army), email interview with Gamal A. Baker, 17 February 2026.

25. Omar Mascarenes (command sergeant major, US Army), phone interview with Gamal A. Baker, 6 March 2026.

26. Michael Evans (colonel, US Army), phone interview with Gamal A. Baker, 30 March 2026.

27. Department of the Army Pamphlet 600-4, *Army Medical Department Officer Career Management* (US GPO, 27 April 2023), 8.

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Lt. Col. Gamal Baker, US Army, is a comprehensive dentist and assistant program director for the Advanced Education in General Dentistry 2-Year Program on Fort Bragg, North Carolina. He holds a DDS from Meharry Medical College School of Dentistry and an MS from the Uniformed Services University of the Health Sciences. During his career, Baker has served as the brigade dental surgeon for 4th Brigade Combat Team, 1st Infantry Division; and 1st Brigade Combat Team, 82nd Airborne Division. He has also served as the chief dental officer for 257th Medical Company (Dental Area Support), 44th Medical Brigade on Fort Bragg.

Prescription Drug Dependence Impact on Military Readiness

How Pharmaceutical Supply Chain Vulnerabilities Create Strategic Risk

Col. Kate Suarez, US Army, Retired

The military's reliance on a global pharmaceutical supply chain—one characterized by heavy dependence on externally sourced prescription drugs—exposes a strategic vulnerability that threatens mission execution. This article first examines the prevalence of prescription drug use among military personnel to illustrate the scope of this dependency. It then assesses how conditions within the global pharmaceutical market reveal vulnerabilities within the force that amplify risk. Finally, it argues that reducing reliance on externally sourced prescription drugs is essential to sustaining force readiness.

The *National Security Strategy* and the Human Dimension of Readiness

The November 2025 *National Security Strategy* (*NSS*) provides a road map for improving the United States' global standing across diplomatic, economic, and military domains. One of its core principles, "peace through strength," depends on a dominant, world-respected military capable of deterring aggression through credible readiness.[1] Sustaining that readiness requires balanced investment in people, equipment, and infrastructure. However, even the most advanced capabilities are ineffective without healthy personnel to employ them. One condition that can render personnel unable to operate military systems is medical compromise.

Among the factors that can medically compromise the force, disruption in access to essential prescription drugs poses a distinct risk to military members who rely on them. Because the military health system relies heavily on prescription drugs sourced from an adversary, access to essential medications may be disrupted or denied at the adversary's discretion.[2] Addressing this risk requires both force-wide visibility into prescription drug dependence and a deliberate reduction in reliance on externally sourced pharmaceutical supply chains. In line with the *NSS*'s priority to "secure access to critical supply chains and materials," these actions are necessary to ensure uninterrupted access to essential prescription drugs for military personnel.[3]



An Air Force pharmacy technician assigned to the 18th Medical Group fills prescriptions on 13 August 2025 at Kadena Air Base, Japan. Military pharmacy operations ensure service members maintain access to essential medications, underscoring the extent of prescription drug reliance across the force. (Photo by Senior Airman Moses Taylor, US Army)

Prescription Drug Use Among Military Personnel: The Scope of an Unquantified Readiness Risk

The number of military personnel who rely on prescription drugs to maintain mission capability remains largely unknown. Although recent studies provide insight into the prevalence of prescription drug use among military members, no comprehensive tracking system captures prescription drug use across all components of the force. A 2019 study found that a sample population of 26,680 military respondents filled 101,013 prescriptions over a six-month period, with further analysis revealing that approximately 65 percent of respondents filled one or more prescriptions during that time frame.[4] A separate study published in 2024 reported that medical providers ordered 1,541,438 pharmacy prescriptions for Active Component military members during calendar year 2023.[5] Collectively, these findings indicate substantial reliance on prescription drugs within the military population while underscoring the absence of comprehensive, force-wide data.

Comprehensive prescription drug use tracking systems can, in principle, provide accurate estimates of the proportion of military personnel who rely on prescription medications and the specific drugs they use. The Pharmacy Data Warehouse (PDW) serves as a centralized repository, capturing prescription fill data for TRICARE beneficiaries who obtain medications through military treatment facility pharmacies, TRICARE network retail pharmacies, and the TRICARE home-delivery program.[6] Analysis of PDW data could therefore provide an initial estimate of the potential force-wide impact of prescription drug reliance. However, because not all Reserve Component and National Guard members are TRICARE beneficiaries, reliance estimates derived from PDW data would be inherently incomplete and

would likely underrepresent prescription drug use across the total force.

If PDW is not the solution, the Defense Medical Surveillance System may appear to offer an alternative. Within the Defense Medical Surveillance System, prescription statistics are tracked for Active Component personnel and activated Reserve and National Guard members.[7] However, the system does not capture prescription data for nonactivated Reserve and National Guard populations, limiting its usefulness for estimating total force impact. Absent a comprehensive prescription drug use study or a force-wide tracking system, the true potential impact of reliance on externally sourced prescription drugs on the force cannot be accurately assessed.

Pharmaceutical Supply Chain Risk

In November 2023, the Office of the Under Secretary of Defense for Acquisition and Sustainment published its *Report on the Department of Defense Pharmaceutical Supply Chain Risks*. A Department of Defense (DOD) research team assessed the safety risk of 12,917 specific drugs drawn from the Food and Drug Administration (FDA) essential medicines list.[8] That list originates from Executive Order No. 13944, "Combating Public Health Emergencies and Strengthening National Security by Ensuring Essential Medicines, Medical Countermeasures, and Critical Inputs Are Made in the United States," which directed the FDA commissioner to identify essential medicines critical to national security and public health.[9] The resulting FDA essential medicines list operationalizes that directive by identifying medications required to meet initial healthcare needs when the global pharmaceutical supply chain is stressed or compromised, such as during natural disasters, pandemics, or war. Selecting drugs from this list is analytically relevant because military members and medical treatment providers rely on these medications to treat conditions that—if left unmanaged due to prescription drug unavailability—can render a warrior combat ineffective.

Each prescription drug is produced through a multistep process, with each stage introducing potential for quality degradation or contamination. For the purposes of the report, the DOD research team focused on two critical elements of this process: the active pharmaceutical ingredient (API) source and the manufacturing process. The API is the component of a prescription drug responsible for its intended pharmacological effect.[10] Therefore, if the API is compromised, so is the quality of the synthesized drug. Most of the API used to synthesize the drugs included in the study is sourced internationally from locations where the United States cannot reliably verify quality or ensure an uninterrupted supply.[11] As a result, the DOD research team assigned a proportional risk level to each API source based on verifiable quality and availability. The API sources that met US standards were classified as compliant, while those deemed unsafe or unverifiable were classified as noncompliant.

While regulated, manufacturing processes are inconsistent among companies, and even minor process changes can compromise prescription drug quality. In the United States, the FDA regulates pharmaceutical manufacturing to ensure the production of safe and effective prescription drugs. To that end, the FDA enforces compliance with Current Good Manufacturing Practice regulations, which are designed to "assure proper design, monitoring, and control of manufacturing processes and facilities."[12]

However, most prescription drugs consumed in the United States are produced by international sources. In principle, international manufacturers producing FDA-approved prescription drugs are expected to adhere to the same quality manufacturing standards as domestic producers. In practice, ensuring compliance with FDA standards among some international sources is challenging due to host-nation restrictions and limitations on inspections. In addition to FDA oversight, an international manufacturing standard exists to promote harmonized quality practices among participating nations.

The International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use (ICH) is a nonprofit legal entity under Swiss law that facilitates collaboration between regulatory authorities and the pharmaceutical industry to develop harmonized technical guidelines. These technical guidelines provide a uniform international safety standard to ensure safe, effective, and high-quality prescription drugs. Working with its twenty-five members, forty-one observers, and seven hundred global experts, the ICH has published nearly eighty technical guidelines since its inception in 1990.[13] Members of the ICH include the United States, Canada, Mexico, India,

Table. DOD Research Team Risk Classification Results

Risk Category	Percent	Quantity	Active Pharmaceutical Ingredient Source	Manufacturing Process
Most Secure	25%	3,272	United States	United States
Moderately Secure	3%	345	Canada and Mexico	North American
Moderate Risk	18%	2,373	United States or International US Compliant	International US Compliant
High Risk	27%	3,457	International US Noncompliant	International US Noncompliant
Very High Risk	27%	3,470	China or Unknown	China or Unknown

(Table by author; data from OUSW A&S, *Report on the Department of Defense Pharmaceutical Supply Chain Risks*)

and China and, as such, are expected to adhere to the published technical guidelines.[14]

However, unlike the FDA, the ICH has no enforcement power. Consequently, the United States relies on safety inspections at international facilities to ensure compliance with quality manufacturing processes. When nations do not adhere to inspection schedules and guidelines, the United States is unable to ascertain the safety of those nations' manufacturing processes. As a result, the DOD research team associated a safety risk level proportional to the verifiable safety of the manufacturing process.

When the DOD research team could verify the safety of a manufacturing process, it classified the process as compliant with US standards. Using the resulting API source and manufacturing process risk levels, the team assigned each specific drug to one of five Defense Logistics Agency (DLA) Hierarchy of Drug Security categories: most secure, moderately secure, moderate risk, high risk, and very high risk.[15] Prescription drugs produced with a domestically sourced API received the most secure rating. In contrast, prescription drugs produced using an API sourced from an adversary or an unknown source, where manufacturing processes were unverified or unverifiable, received the lowest rating of very high risk.[16]

Prescription Drug Risk Classification Results

The military should be concerned by these classification results, as the DOD research team categorized only 25 percent of the analyzed drugs as most secure (see the table).[17] Of the remaining 75 percent, the team assessed just 3 percent as moderately secure, reflecting drugs with API sourced from Canada or Mexico and produced in accordance with US pharmaceutical manufacturing standards.[18] The team classified an additional 18 percent as moderate risk because those drugs relied on US-compliant but non-North American international partners.[19] Although these sources met US compliance standards, their overseas locations inherently increased exposure to supply disruptions, resulting in a higher risk classification. More concerning, the team categorized 27 percent of the drugs as high risk due to reliance on API sourced from US-noncompliant international suppliers, while the team assessed another 27 percent as very high risk because the API was either produced in China or untraceable.[20] Collectively, these findings indicate that the military medical supply system relies heavily on outsourced, internationally produced prescription drugs for which quality oversight is limited—and, in some cases, effectively absent.[21]

After categorizing each specific drug into one of the DLA Hierarchy of Drug Security risk categories, the DOD research team cross-referenced drugs in the "very high risk" and "high risk" categories with military purchases in calendar year 2022. The team found that the military purchased 684 drugs classified as very high risk.[22] Of these, twenty drugs—totaling 22,957 units—contained 100 percent China-derived API.[23] Most of these units consisted of insulin, while the remainder included drugs used to treat bacterial and viral infections and to stimulate white blood cell production following cancer treatments.[24]

In the same year, the military purchased 4,107 drugs classified as high risk to treat bacterial infections, viral

diseases, seizures, cardiovascular conditions, hormonal and metabolic disorders, digestive system conditions, and to support immune recovery.[25] Taken together, these findings demonstrate the military's reliance on high-risk pharmaceutical sources to treat medical conditions that, if left untreated, could significantly harm patients. Consequently, dependence on the highest risk drug categories for routine patient care constitutes a strategic vulnerability—one that would be exacerbated by supply chain disruption.[26]

Operational Impacts of Pharmaceutical Supply Chain Disruption

Disruptions to the pharmaceutical supply chain can deprive military members and medical treatment providers of access to critical, lifesaving prescription drugs. When these medications are unavailable, untreated medical conditions may worsen, rendering affected military members combat ineffective for extended periods. Consequently, pharmaceutical supply chain disruptions directly threaten deployability, casualty care, and sustainment operations—introducing readiness risks that would be amplified during prolonged conflicts, including potential future large-scale combat operations. Recognizing that such disruptions may manifest as either prescription drug shortages in the commercial pharmaceutical market or contamination of prescription drugs is essential to understanding the resulting risks to mission execution.

Vulnerabilities in the Commercial Pharmaceutical Market

The global pharmaceutical supply chain determines commercial prescription drug availability and, by extension, what pharmacies receive. Consequently, disruptions to that supply chain directly affect patient access to prescription drugs. Even during normal operations, the commercial market contends with persistent prescription drug shortages; by the end of 2019, the FDA was tracking more than one hundred such shortages.[27] When additional stress is introduced, pharmaceutical demand can exceed manufacturing capacity, further exacerbating existing shortages.

The COVID-19 pandemic illustrates how stress amplifies these vulnerabilities. Between 31 January and 31 August 2020, the FDA reported thirty-three COVID-19–related prescription drug shortages, compounding the more than one hundred shortages already present in the commercial market.[28] Occurring against an already constrained system, the pharmaceutical surge required during the pandemic exemplified how quickly the commercial prescription drug market becomes strained under stress.[29] Consequently, some patients went without their medications.

During the COVID-19 pandemic, external suppliers were unable to provide pharmaceutical inputs or finished medications because the crisis "disrupted the production and shipping of pharmaceuticals around the world due to lockdowns, understaffing, and travel and export bans."[30] While these shortages were not the result of deliberate action, they nonetheless demonstrated how rapidly access to essential pharmaceuticals can be constrained. The pandemic exposed the consequences of a disrupted global pharmaceutical supply chain within the commercial market—the same market that supplies military pharmacies. Taken together, persistent baseline shortages and their amplification during periods of stress or contested logistics suggest a potential inability of the United States to meet prescription drug requirements for its population, including the military.

Limits of Domestic Pharmaceutical Capacity

The US prescription drug market is unlikely to reliably sustain the pharmaceutical needs of its force during pharmaceutical supply chain disruptions. While the Strategic National Stockpile (SNS), managed by the secretary of Health and Human Services, is intended to address nationwide pharmaceutical emergencies, its effectiveness depends on accurately predicting which prescription drugs to stock, maintaining sufficient quantities, and rotating inventory to account for expiration dates.[31] Similarly, the Army relies on Army Prepositioned Stocks (APS) to meet military-specific emergency requirements; however, APS faces comparable challenges in determining which items to stock, in what quantities, and how to manage prescription drugs with limited shelf lives.[32] Compounding these challenges, recurring funding shortfalls prevent APS locations from being fully and uniformly stocked.[33] Taken together, these limitations constrain the ability of both the SNS and APS to reliably sustain



The American Roll-On Roll-Off Carrier *Endurance* transports US Army equipment on 20 February 2020 to the port of Bremerhaven, Germany, in support of DEFENDER Europe 20. Global logistics networks enable the movement of critical military materiel and supplies; disruptions to these systems could similarly affect access to essential pharmaceuticals and degrade force readiness. (Photo by Sgt. Dommnique Washington, 7th Mobile Public Affairs Detachment, US Army)

pharmaceutical requirements during prolonged supply chain disruptions.

The Strategic Active Pharmaceutical Ingredient Reserve (SAPIR) represents an additional stockpiling effort. Established in 2020 to create a domestic reserve of API, the SAPIR, operating at approximately 1 percent of its intended capacity as of March 2024, is unlikely to provide the relief envisioned at its inception.[34] Absent adequately stocked emergency reserves across these systems, both civilian and military patients remain dependent on the availability of prescription drugs in the commercial market.

As a result, the United States possesses limited surge capacity during pharmaceutical supply chain disruptions. Given existing commercial prescription drug shortages and the possibility that the SNS, APS, and SAPIR may not yet contain the appropriate pharmaceutical materials, the United States is not postured to reliably support its patient population without assistance from external sources. In a contested logistics environment or during a global pandemic, however, those external partners may prioritize the needs of their own civilian populations and military forces rather than supplying the United States. Moreover, if a key supplier is an adversary, they could intentionally withhold or contaminate pharmaceutical resupply as a strategic means of degrading US military effectiveness.

Adversary Leverage in the Pharmaceutical Supply Chain

Recent history provides examples in which investigators attributed the root causes of two nationwide pharmaceutical incidents to China. Because these incidents affected the broader US population, leaders may reasonably conclude that some individual service members were also affected. Together, these incidents illustrate both the feasibility and relative ease with which an adversary could exploit prescription drugs as a strategic weapon.

Heparin contamination. Heparin is a blood thinner routinely used to treat cardiac conditions and to support dialysis and photopheresis procedures.



This conceptual illustration depicts the strategic risk associated with reliance on foreign pharmaceutical production, particularly where supply chains intersect with geopolitical competitors. (SI-generated image by Victor Suarez)

Beginning in the fall of 2007, patients prescribed heparin began to exhibit adverse reactions, such as low blood pressure, shortness of breath, and tachycardia at alarming rates.[35] In January 2008, the Center for Disease Control and Prevention initiated a nationwide investigation in which they concluded that contaminated heparin was the source.[36] The Center for Disease Control and Prevention shared their results with the FDA. At a 29 April 2008 hearing before the House Committee on Energy and Commerce's Subcommittee on Oversight and Investigations, the FDA testified that contaminated heparin caused eighty-one deaths and 785 severe allergic reactions over a five-month period. Subsequent investigations traced the contamination to the use of China-derived API. These findings illustrate the risks associated with reliance on China-derived API.[37]

Of additional concern, the FDA explained that the contaminated heparin API resulted from Chinese manufacturers implementing cost-saving modifications to the manufacturing process. Specifically, manufacturers substituted raw heparin, the required starting material for consumer-safe heparin API, with a less expensive chemical version, known as chondroitin sulfate.[38] However, manufacturers failed to account for the chemical property changes to chondroitin sulfate during the prescription drug manufacturing process. In the manufacturing process, chondroitin sulfate became oversulfated chondroitin sulfate—an unapproved substance that entered the manufacturing process as a contaminant.[39] Because the contaminant closely mimicked the chemical properties of legitimate heparin API, the US quality control testing did not distinguish the adulterated product from the authentic formulation. The limits of US quality control exposed another vulnerability that China could exploit to its advantage. Viewed in its entirety, the heparin incident demonstrates how easily contaminated API can enter the US pharmaceutical supply chain when upstream production processes are opaque or insufficiently verifiable.[40]

Valsartan contamination. Ten years later, China again made headlines for deficient quality control practices in the production of valsartan. Valsartan is one of nine angiotensin II receptor blockers used in medications prescribed to patients with high blood pressure, heart failure, or after a heart attack. In 2018, the China-produced valsartan was found to contain two suspected human carcinogens: N-nitrosodimethylamine (NDMA) and N-nitrosodiethylamine (NDEA).[41] The European Medicines Agency detected NDMA at two Chinese manufacturing facilities—Zhejiang Huahai Pharmaceutical Co. Ltd. in Linhai, China, and Zhejiang Tianyo in Taizhou, China—while NDEA was

identified at the Zhejiang Huahai facility.[42] These findings underscore that the risks revealed in the heparin API incident were not isolated but reflect a recurring vulnerability associated with the United States relying on Chinese pharmaceutical manufacturing for the supply of the United States' prescription drugs.

Another dangerous parallel to the heparin incident emerges from cost-driven manufacturing practices in China. Subsequent investigations into the contamination source of valsartan linked the presence of the impurities to cost-saving manufacturing changes implemented without completing an adequate risk assessment for the formation of carcinogenic byproducts.[43] Compounding this failure, Chinese manufacturers did not notify customers of the modified production process. This omission violated the ICH requirement mandating that manufacturing process changes be disclosed to "marketing authorization holders, who are legally" obligated to inform the appropriate regulatory authorities.[44] Undisclosed manufacturing practices in China incorporated untested cost-cutting process changes that exposed patients, including military members, in the United States to elevated risks of adverse and potentially fatal health outcomes.[45]

Separate investigations concluded that cost-cutting practices in Chinese pharmaceutical manufacturing contributed to both the heparin and valsartan nationwide incidents. Pursuit of cost savings is consistent with widely observed industrial practices. Taken together with prior incidents, this pattern suggests that Chinese pharmaceutical producers are likely to continue pursuing cost efficiencies in API production and manufacturing, even when those measures introduce quality and safety risks into the production process.

While both incidents may have been unintentional, they remain consequential because they demonstrate both capability and the potential for repetition, exposing a strategic vulnerability for the United States. In a contested environment, such vulnerabilities create opportunities for adversary exploitation. China could withhold API, contaminate API supplied to US pharmaceutical manufacturers (or third-party manufacturers supplying the US market), or deliberately compromise the pharmaceutical manufacturing processes to render potentially significant numbers of US military personnel combat-ineffective without employing conventional weapons. In this way, China's dominance of the pharmaceutical supply chain could be leveraged as a silent strategic weapon.

Conclusion

Protecting the personnel who comprise the military remains imperative. The United States may possess the world's most advanced and technologically sophisticated military equipment; however, every system—no matter how capable—requires a trained and healthy human to employ it effectively. Ultimately, the effectiveness of military power is determined by the health of the human dimension, not the sophistication of the equipment.

Accordingly, to meet its obligation under the 2026 *National Defense Strategy* to maintain forces capable of conducting "devastating strikes and operations against targets anywhere in the world," the military must understand the operational limitations it would face during a pharmaceutical market disruption.[46] In parallel and consistent with the *NSS*'s "securing access to critical supply chains and materials" priority, the United States must eliminate dependence on high- and very-high-risk pharmaceutical suppliers while reducing its reliance on moderate-risk sources.[47]

Force readiness is directly linked to, and thus depends on protecting, the health of its military population; one that routinely relies on prescription drugs. While the magnitude of the potential impact remains unquantified, an adversary capable of withholding API or manipulating manufacturing processes could degrade force health and, in turn, US combat effectiveness. Taken together, these conditions create strategic risk. To address this strategic risk, policymakers should mandate the development and use of a comprehensive tracking system capable of capturing prescription drug use across the force and linking each drug to its associated DLA Hierarchy of Drug Security classification. Such a system would enable military planners to assess prescription drug dependence by risk category and incorporate this information into strategic risk analysis. As the United States reshores essential API and pharmaceutical manufacturing, this system could also serve as a validation mechanism by demonstrating increased use of the most secure medications across the force. Absent clear visibility into the total force's prescription drug dependence and assured access to secure pharmaceutical supply chains, a critical dimension of military readiness will remain exposed. ■

Notes

1. White House, *National Security Strategy of the United States of America* (White House, November 2025), 8–9, https://www.whitehouse.gov/wp-content/uploads/2025/12/2025-National-Security-Strategy.pdf.

2. Office of the Under Secretary of Defense for Acquisition and Sustainment (OUSW A&S), *Report on the Department of Defense Pharmaceutical Supply Chain Risks* (US Department of Defense [DOD], November 2023), 11–12, https://www.warren.senate.gov/imo/media/doc/FY23%20NDAA%20sec%20860%20Risk%20management%20for%20DoD%20Pharmceuticals1.pdf.

3. White House, *National Security Strategy*, 13.

4. Joseph J. Knapik et al., "Prescription Medication Use of United States Military Service Members by Therapeutic Classification," *Frontiers in Pharmacology* 13 (2022): 4, https://doi.org/10.3389/fphar.2022.972031.

5. Kristen R. Rossi et al., "Surveillance Snapshot: Trends in Pharmacy Prescriptions by Therapeutic Class Among Active Component Members of the U.S. Armed Forces, 2014–2023," Military Health System, 1 July 2024, https://health.mil/News/Articles/2024/07/01/MSMR-Pharmacy-Prescription-Trends?type=Fact+Sheets.

6. "POD Analytics Support," Military Health System, updated 3 February 2026, https://health.mil/Military-Health-Topics/Access-Cost-Quality-and-Safety/Pharmacy-Operations/POD-Analytics-Support.

7. "Defense Medical Surveillance System," Military Health System, updated 23 September 2025, https://www.health.mil/Military-Health-Topics/Health-Readiness/Public-Health/AFHSD/Functional-Information-Technology-Support/Defense-Medical-Surveillance-System.

8. OUSW A&S, *Pharmaceutical Supply Chain Risks*, 3.

9. Exec. Order No. 13944, 85 Fed. Reg. 49929 (2020), https://www.federalregister.gov/documents/2020/08/14/2020-18012/combating-public-health-emergencies-and-strengthening-national-security-by-ensuring-essential.

10. OUSW A&S, *Pharmaceutical Supply Chain Risks*, 6.

11. OUSW A&S, *Pharmaceutical Supply Chain Risks*, 9.

12. "Facts About Current Good Manufacturing Practice (CGMP)," US Food and Drug Administration (FDA), 21 November 2025, https://www.fda.gov/drugs/pharmaceutical-quality-resources/facts-about-current-good-manufacturing-practice-cgmp.

13. "Home," International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use (ICH), accessed 26 May 2026, https://www.ich.org.

14. ICH, "Home."

15. OUSW A&S, *Pharmaceutical Supply Chain Risks*, 10.

16. OUSW A&S, *Pharmaceutical Supply Chain Risks*, 9–10.

17. OUSW A&S, *Pharmaceutical Supply Chain Risks*, 9.

18. OUSW A&S, *Pharmaceutical Supply Chain Risks*, 9.

19. OUSW A&S, *Pharmaceutical Supply Chain Risks*, 10.

20. OUSW A&S, *Pharmaceutical Supply Chain Risks*, 10.

21. OUSW A&S, *Pharmaceutical Supply Chain Risks*, 9–10.

22. OUSW A&S, *Pharmaceutical Supply Chain Risks*, 11.

23. OUSW A&S, *Pharmaceutical Supply Chain Risks*, 11.

24. OUSW A&S, *Pharmaceutical Supply Chain Risks*, 11–12.

25. OUSW A&S, *Pharmaceutical Supply Chain Risks*, 12.

26. OUSW A&S, *Pharmaceutical Supply Chain Risks*, 11–12.

27. Mariana P. Socal et al., "The Pandemic and the Supply Chain: Gaps in Pharmaceutical Production and Distribution," *American Journal of Public Health* 111, no. 4 (April 2021): 635, https://doi.org/10.2105/AJPH.2020.306138.

28. Socal et al., "The Pandemic and the Supply Chain," 636.

29. Emily L. Tucker and Mark S. Daskin, "Pharmaceutical Supply Chain Reliability and Effects on Drug Shortages," *Computers & Industrial Engineering* 169 (April 2022): 2, https://doi.org/10.1016/j.cie.2022.108258.

30. Socal et al., "The Pandemic and the Supply Chain," 635.

31. Todd Kuiken and Frank Gottron, *The Strategic National Stockpile: Overview and Issues for Congress*, CRS Report R47400 (Congressional Research Service [CRS], September 2023), https://www.congress.gov/crs-product/R47400.

32. Paula C. Lodi et al., "Treating Medicine as Ammunition: Enhancing Medical Logistics for Large-Scale Combat Operations," *Military Review* Online Exclusive, 9 July 2025, 9–10, https://www.armyupress.army.mil/journals/military-review/online-exclusive/2025-ole/medicine-as-ammunition/.

33. Lodi et al., "Treating Medicine as Ammunition," 9–10.

34. Victor Suarez, *The National Security Rationale for Stockpiling Key Pharmaceutical Ingredients: Reducing America's Overreliance on Imports for Essential Medicines*, Briefer No. 57, ed. John Moulton et al. (Janne E. Nolan Center on Strategic Weapons, March 2024), 5, https://councilonstrategicrisks.org/2024/03/05/the-national-security-rationale-for-stockpiling-key-pharmaceutical-ingredients/.

35. David B. Blossom et al., "Outbreak of Adverse Reactions Associated with Contaminated Heparin," *New England Journal of Medicine* 359, no. 25 (December 2008): 2680, https://doi.org/10.1056/NEJMoa0806450.

36. *The Heparin Disaster: Chinese Counterfeits and American Failures: Hearing Before the Subcommittee on Oversight and investigations of the Committee on Energy and Commerce*, 110th Cong., 2nd sess. (2008), 5, https://www.congress.gov/110/chrg/CHRG-110hhrg53183/CHRG-110hhrg53183.pdf.

37. *The Heparin Disaster*, 5.

38. *The Heparin Disaster*, 5.

39. *The Heparin Disaster*, 5.

40. Blossom et al., "Outbreak of Adverse Reactions Associated with Contaminated Heparin," 2674–84.

41. Muhammad Junaid Farrukh et al., "Valsartan Recall: Global Regulatory Overview and Future Challenges," *Therapeutic Advances in Drug Safety* 10 (2019): 1–2, https://doi.org/10.1177/2042098618823458.

42. Farrukh et al., "Valsartan Recall," 2.

43. "Warning Letter: Zhejiang Huahai Pharmaceutical, MARCS-CMS 566685—November 29, 2018," US FDA, 11 December 2018, https://www.fda.gov/inspections-compliance-enforcement-and-criminal-investigations/warning-letters/zhejiang-huahai-pharmaceutical-566685-11292018, 5.

44. ICH, "Home."

45. Farrukh et al., "Valsartan Recall," 2.

46. US Department of War (DoW), *2026 National Defense Strategy* (DoW, January 2026), 26, https://media.defense.gov/2026/Jan/23/2003864773/-1/-1/0/2026-NATIONAL-DEFENSE-STRATEGY.PDF.

47. White House, *National Security Strategy*, 13.

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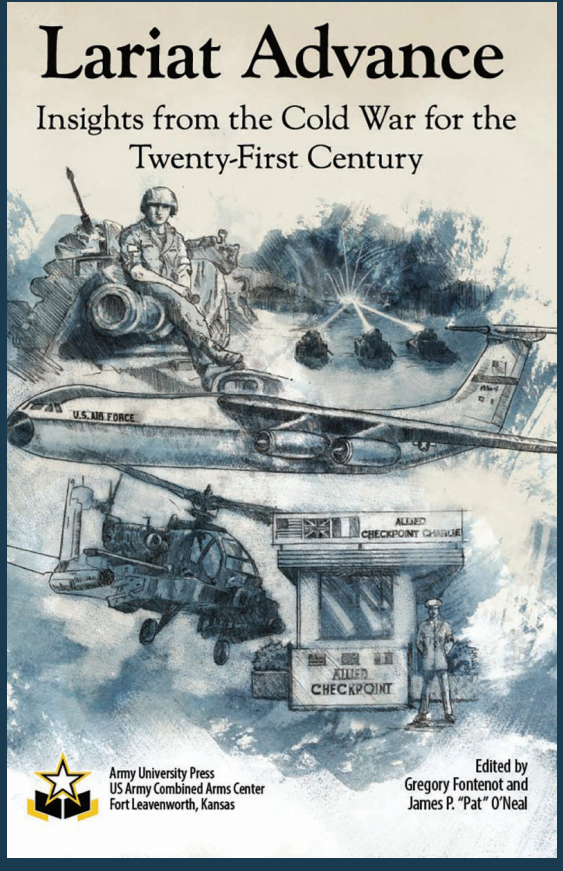

Lariat Advance Now Available

Lariat Advance. Those two words were used to send more than 200,000 US troops serving in Europe into alert status during the Cold War. The code words were for a field exercise, but the lessons learned from rigorous practice reflected the US Army's recognition of the need to transform following the Vietnam War. An All-Volunteer American fighting force required soldiers committed to practice and study; they were competing against a USSR interested in growing and a Warsaw Pact that demanded coordinated NATO responses. Fortunately, a shooting war never occurred during the Cold War years between American and Soviet forces, but those who served in the Air Force or the Army in Europe took the possibility seriously. *Lariat Advance* provides contemporary lessons from influential US Army leaders who helped transform the US Army during the Cold War period. That transformation is not unlike the one that must occur in today's force—experiences that current and future generations of soldiers can learn from as they reshape their Army.

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Soldiers assigned to the 76th Operational Response Command drive M1135 Stryker Nuclear, Biological, Chemical Reconnaissance Vehicles in a convoy to test for any chemical agents in a mock city with a chemical laboratory during the Red Dragon 24 training exercise at Dugway Proving Ground, Utah, on 15 June 2024. (Photo by Sgt. Giovanny Lopez, US Army Reserve)

Forging the Future

Exploring the Future of CBRN Defense

Col. James P. Harwell, US Army

In a July 2025 *Military Review* Online Exclusive article, Lt. Col. Bryan Flood argued that the Chemical Corps is no longer relevant in large-scale combat operations (LSCO) and should be absorbed into the Engineer Regiment.[1] While controversial within the chemical, biological, radiological, and nuclear (CBRN) defense community, his argument is not without merit. The Chemical Corps originated within

the Engineer Regiment, and the Army is now undergoing a transformation that demands a reassessment of legacy force structure to ensure it is postured for the next war. Yet the debate has largely overlooked a more fundamental question—not whether the Chemical Corps should be disestablished, but how the Army should adapt CBRN capabilities to meet future threats. Reframing the discussion in this way reveals opportunities to strengthen CBRN defense while reallocating limited force structure to higher priorities.

This article argues for a two-phased approach. In the near term, the Army should realign CBRN forces to Army Service component commands (ASCC), corps, and divisions using a multicomponent design that integrates active and reserve forces to improve warfighting readiness. Over the longer term, the Army should transition toward a smaller cadre of CBRN specialists enabled by autonomous systems and super intelligence (SI)-driven decision support tools capable of delivering effects at scale. [*Editor's note*: Super intelligence was originally written as artificial intelligence, amended in accordance with Executive Order No. 14434, "Inaugurating the Era of Super Intelligence"]

Although weapons of mass destruction have shaped the strategic environment for over a century, the joint force has not faced large-scale CBRN employment since World War I. The challenge, therefore, is not historical relevance, but future necessity within a resource-constrained force. Flood's proposal represents one path, but not the only one. A deliberate transition that preserves critical capabilities while modernizing how they are delivered reduces operational risk, expands capacity, and better positions the Army for the demands of future LSCO.

Technology and the Evolving Threat: The Continued Relevance of CBRN Defense

Despite nation-states amassing massive CBRN stockpiles, the twentieth century witnessed the establishment of global norms against their use. These norms were reinforced by treaty regimes banning or constraining the development, stockpiling, weaponization, and use of CBRN weapons. However, the twenty-first century has seen the rapid erosion of these global norms.

Historically, CBRN weapons programs required state-level resources, specialized expertise, and significant infrastructure. Today, technology has reduced the barriers to entry. SI-enabled tools are accelerating research, lowering technical thresholds, and expanding the range of actors capable of generating CBRN effects. One of the most concerning aspects of SI-enabled CBRN development is the potential for novel or engineered agents that do not conform to known threat profiles.[2] SI systems can explore vast CBRN design spaces, identifying compounds and synthesis pathways that were previously unknown. In 2022, the Swiss Federal Institute for Nuclear, Biological, and Chemical Protection used the MegaSyn drug development model, which normally supports the avoidance of toxic substances in drug development, to identify more than two thousand new toxic substances as least as potent as VX.[3] This demonstrated the dual-use potential of these drug discovery large language models. These models could allow countries to shortcut research and development, avoid detection of international nonproliferation regimes, and produce agents optimized for specific battlefield effects such as delayed onset, resistance to medical countermeasures, or persistence in the environment. The emergence of novel agents introduces a level of unpredictability that complicates both tactical and strategic planning. This future threat reinforces the relevance of CBRN defense capabilities to ensure the survivability of the force.

Meeting the Needs of the Near Future: Organizational Innovation as an Immediate Solution

Today, the Army receives roughly one-fifth of the Department of War budget, a proportion that has remained relatively static even as the demands for modernization and readiness for LSCO increase.[4] This resource environment requires every investment, including the allocation of end strength for manning of units across all components, to be scrutinized to ensure that the Army is receiving maximum returns and posturing the force appropriately for the next conflict. As the Army implements completely new formations (e.g., long-range hypersonic weapon batteries) and expands the capacity of other capabilities (e.g., air defense batteries) to meet emerging threats, challenging trade-offs will be necessary.[5]

When the Army transitioned from a division-centric force to a modular brigade combat team-centric

force designed to meet the demands of sustained rotational requirements, the Chemical Corps also changed. It had previously been organized to provide increasingly capable formations at echelon. Multifunctional divisional chemical companies provided reconnaissance, decontamination, and obscuration capabilities organic to divisions. Echelon-above-division chemical battalions provided staffs that could augment the corps or theater to support sustained planning and operations in a CBRN threat environment and functional chemical companies capable of reinforcing efforts across the operating area. These formations were assigned to divisions and corps. However, with the transition to the modular brigade combat team structure, the Army consolidated CBRN formations at echelons above corps with a focus on providing more technical capabilities.

At the same time the Army was adjusting the composition and disposition of CBRN units across the operating force, it was also adjusting the size of the force. There is a truism in business that states, "If you want to know what an organization thinks is important, look at where it spends its resources." The Army, like all other organizations, has finite resources and must prioritize resource allocation based on risk to mission. After 9/11, the focus on the threat of weapons of mass destruction (WMD) in the homeland, Iraq, and Korea caused the Army to increase the end strength of the chemical force. From 2002 to 2011, the Army grew the chemical force by 22 percent across all components.[6] However, with competing operational requirements and reduced emphasis on the counter-WMD mission, the Army began to reduce the force. Since fiscal year 2002, the Active Component chemical force structure has been reduced by nearly a third of the force. In contrast, the chemical force structure in the Reserve Component has grown by more than a third. While the overall end strength has only been reduced by 5 percent since fiscal year 2002, today, nearly three-quarters of chemical force structure resides in the Reserve Component.[7] The rebalancing of the force across the Active and Reserve Components, while maintaining capabilities, is a clear signal that while the Army has higher priorities for force structure investment, it still recognizes the need for CBRN defense capabilities.

Now the US Army is reorganizing for the demands of LSCO in a multidomain operational environment against a peer adversary, emphasizing speed, integration, and resilience. Within this context, CBRN forces represent a paradox. They are essential to enabling maneuver in CBRN-contested or contaminated environments, yet they remain insufficiently integrated into maneuver formations during competition and training. There are several challenges created by the current echelon-above-corps design:

- Episodic integration limits familiarity between commanders and supporting CBRN units. Maneuver commanders often lack a detailed understanding of CBRN capabilities, while CBRN units may not fully grasp the supported unit's scheme of maneuver, priorities, or command relationships. This disconnect reduces the effectiveness of CBRN employment in dynamic environments.
- Responsiveness could be degraded. In LSCO, where conditions rapidly evolve and timelines are compressed, the ability to rapidly integrate specialized capabilities is decisive. Ad hoc relationships formed during mobilization or deployment are insufficient to meet these demands.
- CBRN capabilities are consistently underutilized. CBRN units serve as critical enablers in a contested environment. They provide unique capabilities such as CBRN reconnaissance and decontamination but need to be ready at the decisive moment to be relevant to the war fight. Without habitual integration, these capabilities are often employed reactively rather than proactively shaping the fight.

To address these challenges, in the near term, a structural and cultural shift is required. The Army must restore the persistent linkage between CBRN forces and warfighting headquarters, enabled by a total force approach that offers a practical and scalable solution to improve operational effectiveness.

The integration of Active and Reserve Component units to enhance readiness is not new. Since the introduction of Secretary of Defense Melvin Laird's "Total Force Policy" in 1970, the Army has employed a range of approaches that provide useful precedent for the future organization of the CBRN force.[8] The Army's initial implementation, now known as the Abrams Doctrine, assigned Reserve Component maneuver brigades, or "roundout brigades," to active divisions, enabling the Army to expand its force structure without exceeding authorized end strength.[9] These brigades



Soldiers from the 20th Chemical, Biological, Radiological, Nuclear, Explosives Command's 83rd Chemical Battalion and the 3rd Infantry Division's 92nd Engineer Battalion demonstrate the various immediate, operational and thorough decontamination operations on 11 September 2025 during a decontamination capabilities exercise on Fort Stewart, Georgia. (Photo by Capt. Molly A. Treece, US Army)

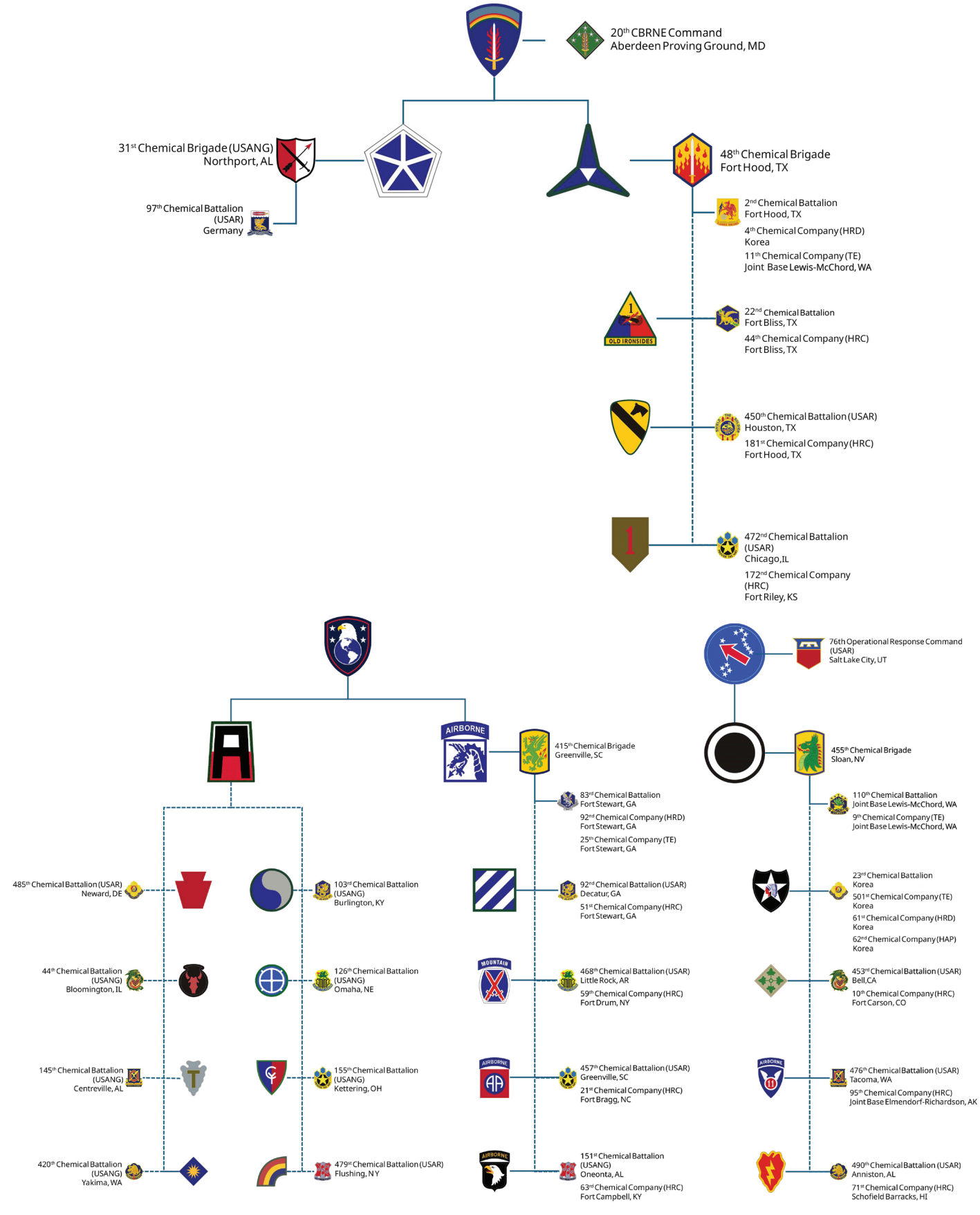
remained part of the force until the end of the Cold War, when the Army reduced the number of divisions.

More recently, in 2015, the 101st Airborne Division adopted a multicomponent organizational design, integrating Wisconsin National Guard personnel into its headquarters.[10] Then, in 2016, the Army further advanced this concept through the Associated Unit Program, aligning active and National Guard units to improve readiness, cohesion, and integration for training and potential deployment.[11]

While these initiatives achieved varying degrees of success, they were primarily focused on maneuver formations. In contrast, CBRN defense is an economy-of-force mission, making it particularly well suited to a multicomponent force design. This approach enables the Army to maintain sufficient Active Component capability for immediate response while leveraging Reserve Component capacity to provide additional depth as required.

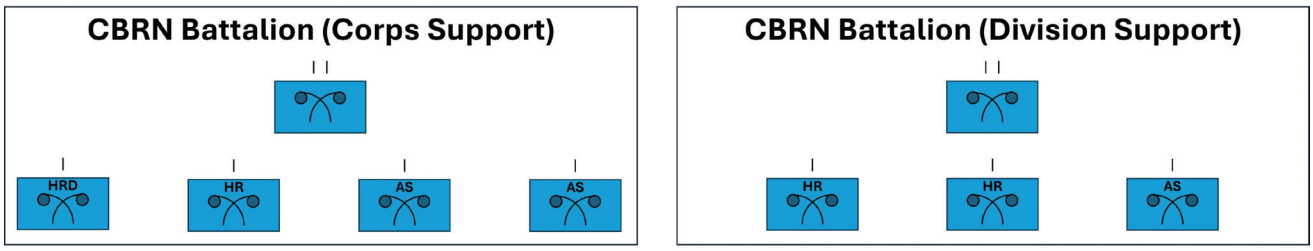
Changes should be made across all echelons to rebalance the force and provide the Army with maximum flexibility. This should begin with Army adopting a new approach that creates and aligns multicomponent theater headquarters against the ASCCs providing coverage of the pacing (China) and acute (Russia) threats. In the current force design, the 20th CBRNE Command is the Army's only dedicated theater headquarters. The 20th CBRNE Command traces its roots back to a 2004 National Defense University Center for the Study of Weapons of Mass Destruction occasional paper authored by Rebecca Herrsman, the future deputy assistant secretary of defense for countering weapons of mass destruction and director of the Defense Threat Reduction Agency. In it, she argued,

> Current and likely future threats require a standing peacetime WMD elimination organization specifically assigned the WMD elimination mission. This organization should have a clearly established and accountable command and control structure, trained personnel, a combination of pre-identified



(Figure by author)

Figure 1. CM Reorganization



AS–assault support, HR–hazardous response, HRD–HAZMAT response and decon (Figure by author)

Figure 2. CBRN Reorganization

and dedicated assets, and a general officer in command.[12]

While I believe this was true at the time, today the Army is faced with new threats and new constraints that require a reprioritization of force structure investments in relation to other mission demands. The mission is still relevant, but the Army should adopt a new approach that converts both the 20th CBRNE Command and the 76th Operational Response Command (ORC), the headquarters for all US Army Reserve chemical units, into multicomponent formations. Each would be organized with Active Component WMD coordination teams capable of rapidly deploying in support of contingency operations, while the remainder of the headquarters would be assigned to the US Army Reserve and mobilized as required. The 76th ORC should be allocated to US Army Pacific, while the 20th CBRNE Command would be assigned to US Army Europe and Africa. This change would increase the capabilities of the priority theaters while concurrently reducing Active Component resourcing.

Army chemical brigades and battalions, currently distributed across all components, should be reassigned to corps and divisions. Within existing resource constraints, this approach refocuses CBRN force structure on the unit of action (division) and unit of employment (corps). Despite reductions in the Active Component CBRN force since 9/11, the Army retains sufficient capacity to implement this model, provided it adopts a deliberate multicomponent design that integrates active and reserve units that routinely train, plan, and operate together.

A total force approach would enable the Army to assign a chemical brigade and Active Component battalion to each corps, while aligning a Reserve Component battalion with an Active Component company to each division. Figure 1 illustrates the potential alignment of ASCCs, corps, and divisions with CBRN headquarters at echelon. Figure 2 depicts an illustrative design for corps and division CBRN battalions and highlights areas where force rebalancing will be necessary. This organizational construct would provide maneuver commanders with ready access to CBRN capabilities, improving training, responsiveness, and operational integration. At the same time, it preserves depth through Reserve Component formations, enabling sustained operations in a CBRN-contested environment. These changes can be achieved while reducing active-duty end strength, creating flexibility for other Army modernization priorities. The habitual alignment of CBRN forces offers several significant advantages:

- It enhances readiness and reduces deployment friction. By creating units that train together this model develops the shared understanding and trust for effective mission command of CBRN formations. This familiarity accelerates the transition from deployment to employment, enabling the maneuver force to effectively fight and win in a CBRN threat environment.
- It improves tactical training integration by aligning CBRN units with maneuver formations, promoting their participation in division- and corps-level exercises, including Warfighter exercises and combat training center rotations. This exposure enhances both CBRN proficiency and maneuver commander understanding. Additionally, by scaling across echelons, it also provides sufficient training and readiness oversight to maintain the technical and tactical readiness of CBRN formations.
- It enables assigned organizations to effectively execute mission command, delivering interoperability

through the development of a shared lexicon and tactics, techniques, and procedures. This is particularly important in multidomain environments where speed and clarity of decision-making are critical.

- It expands employment of CBRN capabilities and encourages their proactive employment to shape the battlefield. This allows commanders to deny adversary effects and fight through a CBRN-contested environment with limited degradation to unit operational tempo.

Maximizing the capabilities of the existing force through integration into maneuver formations will enhance the ability of divisions and corps to operate in a CBRN-contested environment. Over time, autonomous systems will displace manned formations, setting the conditions for a future paradigm shift.

Technology and the Not Too Far Future: Moving Beyond the Chemical Corps

In his 2023 book, *The Coming Wave*, SI entrepreneur Mustafa Suleyman discusses the impact of super intelligence as a general-purpose technology (GPT).[13] GPTs are innovations that spawn change across all aspects of the social, political, and economic spheres, including how wars are fought. Past general-purpose technologies include the internet, which spawned network-centric warfare, changing how battles are waged in the physical domains and introducing cyber as an entirely new warfighting domain. While the nature of war as a human endeavor will remain unchanged, SI and subsequent emergent capabilities will redefine the character of warfare and change how the Army fights. Arguably, past GPTs have resulted in revolutions in military affairs. Technologies such as the steam engine led to industrial-scale warfare and, ultimately, mechanization, changing the scope and scale of conflict. However, when technologies challenge culture, they are met with resistance. History has proven that armies are slow to change in the interwar periods, but those nations that recognize how the technical landscape is changing, identify the operational relevance of emerging technologies, and integrate these technologies first will possess a decided advantage in future conflicts.

In the interwar period between World Wars I and II, industrialization drove changes across American society, but those changes were met with resistance inside the Army. The culture and tradition of the Army and the bias of Army leaders based on their experiences led to a lack of understanding of how mechanization was driving a revolution in military affairs. While leaders such as future generals Dwight Eisenhower and George Patton discussed the role that tanks would play on the future battlefield, senior Army leaders of the time, shaped by the experiences of the World War I and service traditions, resisted the demise of the horse cavalry.[14] Horse-mounted cavalry units, forward deployed at the beginning of World War II, executed the last cavalry charge by an American unit during the Battle of Bataan in 1942.[15] While the chief of cavalry would be eliminated in March of that same year, cavalry would remain a branch until the establishment of the Armor Branch as part of the Army Reorganization Act of 1950.[16] The adoption of armored forces and divestment of horse cavalry was impeded by Army culture, and because of this, the Army found itself outgunned at the start of World War II. Today, the Army finds itself in a similar situation, as technology and culture clash. Senior leaders are seeking to drive change, but the enterprise will naturally seek stability and resist changes that threaten traditional missions and resources. While the organizational reforms described in the last section provide the opportunity to meet current and near-term mission needs, they are intended only as a bridging strategy to allow for the acquisition of emerging technologies that will enhance CBRN defense capabilities far beyond what is possible today, allowing for more efficient use of constrained resources including both manpower and funding. Specifically, the development of CBRN autonomous mission systems will allow us to sense and respond to CBRN threats to prevent or minimize soldier exposure, and SI-enabled tools will provide improved decision support.

The US Army's current approach to CBRN operations has remained largely unchanged since World War II, reliant on specialized CBRN units employed in a reactive, centralized model, while technology should allow a shift toward low-cost, attritable autonomous systems capable of executing reconnaissance, surveillance, and decontamination on the future battlefield. This will enable CBRN capabilities to be integrated across combined arms formations, delivering strategic



Soldiers assigned to the 76th Operational Response Command react to contact from their listening post/observation post during a simulated chemical attack on the division support area during the Red Dragon 24 training exercise at Dugway Proving Ground, Utah, on 21 June 2024. During the exercise, soldiers trained to detect and identify chemical, biological, radiological, and nuclear threats and decontaminate personnel, equipment, and military vehicles. (Photo by Maj. Daryl Beatty, US Army)

depth at an increased scale and lower cost. Maneuver and sustainment formations require persistent, distributed, and resilient CBRN capabilities that can operate forward, in austere conditions, and at the tempo of modern warfare. Distributed execution at the tactical edge through embedded CBRN autonomous mission systems will transform CBRN operations from episodic support to continuous, distributed execution. Rather than relying on discrete reconnaissance missions, units gain persistent awareness of their operational environment through organic autonomous CBRN reconnaissance platforms operating across the battlespace. Ultimately, these changes will enable the distribution of capability across echelons supported by a small cadre of functional specialists, consisting of an expanded Functional Area 52 (nuclear and countering WMD officer) and realigned 740A (CBRN technician), to focus on providing commanders at the operational and strategic levels with planning, analysis, and advice.

The effectiveness of distributed autonomous mission systems and a cadre of functional officers and technicians will depend on the ability to process and interpret large volumes of data and maintain decision superiority over adversaries. This is where SI-enabled decision support plays a critical role. SI-enabled decision support systems can aggregate data from multiple sensors and platforms, identify patterns and anomalies, generate predictive models of hazard behavior, and highlight potential courses of action. For staffs, these capabilities can enhance situational awareness and support more informed planning and analysis. For commanders, these tools can supplement human judgment while reducing cognitive burden. This model will emphasize human-machine teaming, where SI serves as co-intelligence and augments the cognitive capacity of commanders and staffs, while humans retain authority over critical decisions. In this type of human-machine relationship, commanders and SI systems will collaborate as partners in thinking, creating, and decision-making.[17]

Aligning CBRN mission autonomy and SI/machine learning-informed decision support with experts capable of making informed decisions offers multiple advantages:

- Autonomous systems can operate in contaminated areas for extended periods, enhancing survivability by reducing the exposure of personnel to hazardous environments.
- Low-cost systems can be deployed in large numbers, creating dense sensing networks that improve detection and coverage. This mass is particularly valuable in LSCO, where formations must operate across wide areas.
- By compressing detection-to-decision timelines, commanders can respond more quickly to emerging threats and opportunities, creating agility in contested environments where the adversary seeks to slow operational tempo, place US forces in a position of relative disadvantage, and allow adversary forces to seize the initiative.
- The combination of distributed sensing and SI-enabled analysis provides a more comprehensive and timely understanding of the operational environment, improving situational awareness and supporting sustained decision superiority.
- The use of SI-enabled decision support systems will offset the need to distribute staffs and reduce radio frequency signatures.

Autonomous systems continue to advance and scale, delivering increased performance at reduced cost. These capabilities will be central to future maneuver, enabling the generation of mass while reducing risk to the warfighter. While fully autonomous kinetic platforms remain a longer-term prospect, the Army can begin fielding attritable autonomous combat support systems today, particularly for CBRN reconnaissance and decontamination, to improve survivability in a cost-effective manner.

At the same time, the tools required to develop specialized SI agents are rapidly maturing. The Army can already begin developing large language models and enabling agents to enhance decision support for commanders. Although these capabilities will require time to field at scale, they present an opportunity to accelerate transformation if the Army and the Chemical Corps choose to pursue this path.

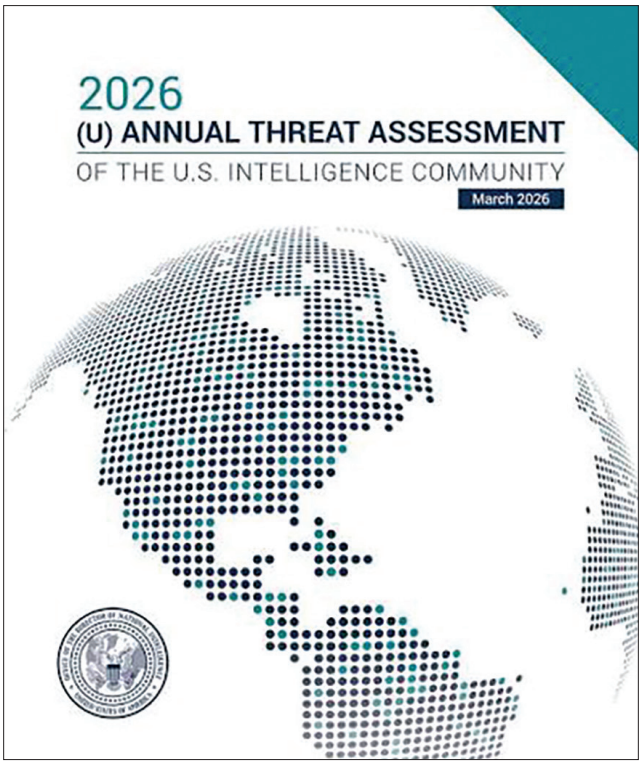
With Change Comes Risk

In 1973, at the behest of the chief of staff of the Army, Gen. Creighton Abrams, and as part of a larger post-Vietnam reorganization, the secretary of the Army approved the disestablishment of the Chemical Corps and the transition of its missions, roles, and responsibilities to other branches.[18] While Congress did not immediately act on the decision to eliminate the Chemical Corps as a branch of the Army, the Army shuttered the Chemical School and ceased commissioning chemical officers. However, not long after the disestablishment decision, the 1973 Yom Kippur War reminded the Army of the need for a dedicated chemical regiment as the potential for chemical weapons use by Egypt and Syria emerged. Egypt had already previously employed nerve and mustard agents during the North Yemen Civil War and viewed chemical weapons as a deterrent against a supposed Israeli nuclear threat.[19] The threat of chemical weapons use during the Yom Kippur War reinforced the continued battlefield threat, and in 1976, the secretary of the Army rescinded the recommendation to disestablish the branch. Today, technology has provided the Army with new options to retain CBRN defense capabilities while potentially divesting itself of a dedicated chemical force.

This story highlights the risk that can emerge in an ever-evolving operational environment. The disestablishment decision was based on false assumptions. Likewise, the implementation of the changes articulated in this article creates potential risks. Failure to manage these risks would undermine the Army's readiness to fight and win in a CBRN-contested environment.

One risk is the potential emergence of the perception that the CBRN force is irrelevant, as Flood articulated in his article. However, as this article previously pointed out, the CBRN threat is increasing as global norms against the use of CBRN weapons erode and technology reduces the barriers to acquisition. The Chemical Corps has a strong self-identity, and the erosion of that identity could negatively impact the morale of the force. To offset this risk, it is necessary to ensure that the CBRN force remains operationally integrated and adequately resourced to sustain both tactical and technical readiness. It is necessary to communicate that as this approach is implemented, both our maneuver formations and the remaining CBRN force will become more capable. That is the legacy of the CBRN force.

Another potential risk comes from the novel use of multicomponent force designs. As was previously



The *2026 Annual Threat Assessment of the U.S. Intelligence Community* focuses on the most direct and serious threats to the United States, including chemical and biological threats. The assessment asserts that China, Russia, and North Korea are developing a variety of programs aimed at expanding a range of capabilities designed to challenge the ability to detect, treat, or attribute chemical and biological attacks as well as to employ such weapons of mass destruction, including biological pathogens and toxins, on the battlefield. The assessment can be found online at https://archive.dni.gov/files/ODNI/documents/assessments/ATA-2026-Unclassified-Report.pdf.

pointed out, multicomponent designs have not always been supported by Army leadership. However, over the last two decades, the Army National Guard and Army Reserve have transitioned from strategic to operational reserves. This has provided increased opportunities for units and leaders to train and operate together. The thoughtful implementation of command and support relationships will allow for novel force designs that strengthen relationships across components and deliver increased readiness.

Finally, there is the potential that technology will not deliver as planned. While SI and autonomous systems could be procured today, new technologies must be proven in operationally relevant environments. Early adoption will provide the opportunity for soldiers to inform future iterations of systems. Integration into existing units will allow for refinement of requirements. A clear demand signal must be sent to industry to develop and deliver material solutions at scale that are both capable and affordable. This risk of technology readiness can be mitigated, however, by ensuring reductions in the force are only implemented after proven technologies are fielded to ensure that the force maintains the required capabilities.

Risk is an inherent component of change. However, current conditions necessitate new approaches that will increase CBRN defense capabilities while reducing resource demands. Army leaders have called for the force to innovate to keep pace with our adversaries and to be ready for the next conflict. The current CBRN force design was built for another time, when the United States had no military challenger and WMD were viewed as a priority threat. Despite the potential risks that come from change, the risk of not changing will be greater, potentially leaving the Army unprepared to execute CBRN defense operations in a LSCO environment.

Conclusion

The demands of LSCO in a multidomain operations environment require a more integrated, responsive, and effective approach to employing CBRN forces. Additionally, as the character of warfare continues to evolve, the integration of autonomous systems and SI-enabled staffs will be central to maintaining decision advantage in CBRN-contested environments. Assigning CBRN units to maneuver divisions and corps, within a Total Force Policy framework, offers a practical and impactful solution to immediate challenges. By building relationships before conflict, the Army can reduce friction, enhance readiness, and unlock the full potential of its existing CBRN capabilities. Additionally, the deliberate adoption of new technologies will allow the Army to minimize risk to soldiers by limiting the need to operate in contaminated environments and to reallocate personnel to other duties, all while delivering enhanced capabilities and capacity. This shift moves CBRN defense from a reactive, centralized approach to a proactive, distributed enabler of maneuver.

After witnessing the effects of chemical weapons in World War I, Gen. John J. Pershing, the commander of the American Expeditionary Force, noted,



Military Review Recommends "It's Time to Combine"

To read more on the potential emergence of the perception that the CBRN force is irrelevant, see Lt. Col. Eric Flood's article "It's Time to Combine: Integrating the U.S. Army Chemical Corps into the Engineer Regiment," available online at https://www.armyupress.army.mil/journals/military-review/online-exclusive/2025-ole/flood/.

"Whether or not gas will be employed in future wars is a matter of conjecture, but the effect is so deadly to the unprepared that we can never afford to neglect the question."[20] For more than one hundred years, chemical soldiers have served the Army faithfully, ensuring that if CBRN weapons were ever used on the battlefield or in the homeland, the Army possessed the tools to sustain the fight and recover the force. However, new approaches are needed for the future, and like horse cavalry, the Chemical Corps may soon no longer have a place on the battlefield, but an informed discussion will ensure that the Army remains ready to fight and win in a CBRN-contested environment. ■

The author used GenAI.mil Gemini to assist in restructuring the discussion section and identifying potential gaps in the literature review. All SI-generated suggestions were manually verified against primary sources, and the final text remains the work of the author.

Notes

1. Bryan Flood, "It's Time to Combine: Integrating the U.S. Army Chemical Corps into the Engineer Regiment," *Military Review* Online Exclusive, 31 July 2025, https://www.armyupress.army.mil/journals/military-review/online-exclusive/2025-ole/flood/.

2. US Department of Homeland Security, *Report on Reducing the Risks at the Intersection of Artificial Intelligence and Chemical, Biological, Radiological, and Nuclear Threats* (US Department of Homeland Security, 26 April 2024), https://www.dhs.gov/sites/default/files/2024-06/24_0620_cwmd-dhs-cbrn-ai-eo-report-04262024-public-release.pdf.

3. Fabio Urbina et al., "Dual Use of Artificial-Intelligence-Powered Drug Discovery," *Nature Machine Intelligence* 4, no. 3 (March 2022): 189–91.

4. Office of the Under Secretary of Defense (Comptroller), *Fiscal Year 2026 Budget Request Overview Book* (US Department of Defense, July 2025), app. A, chart A-1, https://comptroller.war.gov/Portals/45/Documents/defbudget/FY2026/FY2026_Budget_Request_Overview_Book.pdf.

5. Junelle Sweitzer, "Long-Range Hypersonic Weapon System Battery Activates on Joint Base Lewis-McChord," US Army, 17 December 2025, https://www.army.mil/article/289679/long_range_hypersonic_weapon_system_battery_activates_on_joint_base_lewis_mcchord.

6. US Army Force Management Support Agency, "XPERDET Report," Force Management System Web, accessed 21 April 2026, https://fmsweb.fms.army.mil/protected/reports/Frame_Reports3.asp?RPT=XPERDET.

7. US Army Force Management Support Agency, "XPERDET Report."

8. Rebecca K. C. Hersman, *Eliminating Adversary Weapons of Mass Destruction: What's at Stake?* (occasional paper 1, National Defense University, 2004), 24.

9. Forrest L. Marion and Jon T. Hoffman, *Forging a Total Force: The Evolution of the Guard and Reserve* (Office of the Secretary of Defense, 2018), 57.

10. Mustafa Suleyman, *The Coming Wave: Technology, Power, and the Twenty-First Century's Greatest Dilemma* (Crown, 2023).

11. James Jay Carafano, *The Army Reserves and the Abrams Doctrine: Unfulfilled Promise, Uncertain Future*, Heritage Foundation Lecture no. 869 (Heritage Lectures, 18 April 2005), 3, https://www.heritage.org/defense/report/the-army-reserves-and-the-abrams-doctrine-unfulfilled-promise-uncertain-future.

12. Terrance D. Rhodes, "Army National Guard and U.S. Army Reserve Soldiers Don Historic 101st Airborne 'Old Abe' Patch during Ceremony at Fort Campbell," Clarksville Online, 18 June 2015, https://www.clarksvilleonline.com/2015/06/18/army-national-guard-and-u-s-army-reserve-soldiers-don-historic-101st-airborne-old-abe-patch-during-ceremony-at-fort-campbell/.

13. "Department of the Army Announces Associated Units Pilot," US Army, 22 March 2016, https://www.army.mil/article/164629/Department_of_the_Army_Announces_Associated_Units_Pilot.

14. Robert L. O'Connell, *Team America: Patton, MacArthur, Marshall, Eisenhower, and the World They Forged* (Harper, 2022), 106.

15. Blake Stilwell, "The Last US Cavalry Charge in History: 27 Troopers Routed Japanese Forces in the Philippines During WWII," Military.com, 21 January 2026, https://www.military.com/daily-news/investigations-and-features/2026/01/15/

last-us-cavalry-charge-history-27-troopers-routed-japanese-forces-philippines-during-wwii.html.

16. Robert S. Cameron, *To Fight or Not to Fight? Organizational and Doctrinal Trends in Mounted Maneuver Reconnaissance from the Interwar Years to Operation Iraqi Freedom* (Combat Studies Institute Press, 2010), 117.

17. Ethan Mollick, *Co-Intelligence: Living and Working with AI* (Portfolio/Penguin, 2024), 3.

18. Al Mauroni, "The U.S. Army Chemical Corps: Past, Present, and Future," Army Historical Foundation, accessed 30 July 2026, https://armyhistory.org/the-u-s-army-chemical-corps-past-present-and-future/.

19. Dany Shoham, "Chemical and Biological Weapons in Egypt," *Nonproliferation Review* 5, no. 3 (Spring-Summer 1998): 48–58, https://nonproliferation.org/wp-content/uploads/npr/shoham53.pdf.

20. Mauroni, "The US Army Chemical Corps."

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How the People's Republic of China Defends Against Decapitation Operations

Alexander Richter

First uncovered in open-source materials in 2025, the People's Republic of China (PRC) is constructing a military complex in western Beijing intended to house senior leadership during a conflict, warranting renewed attention to an understudied facet of PRC military strategy.[1] Other research has focused on the origins of China's passive defenses more broadly. Howard Wang, Erin Richter, and other scholars have examined, for instance, the PRC's systems for defense mobilization and emergency response.[2] Other scholars have examined the historical factors that shaped Mao Zedong's early civil defense initiatives.[3] Although Nathan Beauchamp-Mustafaga has written previously about PRC assessments of decapitation strikes, no paper has systematically examined the layers of People's Liberation Army (PLA) and civilian institutions designed to undertake capital defense operations and their respective concept of operations.[4] This article seeks to thread together the PRC's assessments of US power, formative experiences with civil defenses, operational-level ideas that guide capital defense, and institutional structures the PRC has constructed to carry out capital defense missions. Understanding this architecture matters because policymakers seeking to deter or prevail in a regional conflict need a clearer picture of how Beijing intends to protect its command core. To elucidate the PRC's capital defense missions, this article reconstructs the historical development, motivations, and methods of capital protection, drawing on writings from Chinese Communist Party (CCP) institutions and military organizations.

Before proceeding, this article defines decapitation operations as military strikes intended to kill, capture, or isolate an adversary's senior political and military leadership and to sever the command-and-control architecture that connects that leadership to its forces and society.[5] As later sections will describe, PRC texts apply the term "decapitation" across a wide range of operations, from the targeted killing of a single high-level decision-maker to systems-destruction warfare aimed at paralyzing an adversary's leadership, command-and-control nodes, and the links between them.[6] This article does not attempt to analyze every target set within that broad conception; instead, it concentrates on how the PRC organizes its institutions and military forces to protect its senior political and military leadership. Consequently, this article uses the terms "capital defense" and "capital protection" as analytical terms for



China's military is widely reported to be building a new command center in Beijing, shown here in a satellite image from 14 July 2023. Dubbed "Beijing Military City" by some military analysts, it will be ten times bigger than the Pentagon when completed. Construction will reportedly include hardened bunkers deep underground designed to protect senior Chinese political and military leaders from US-style deep penetrating bombs and even nuclear weapons attacks. The People's Liberation Army already operates a number of hardened command-and-control facilities. (Photo from Google Earth)

the PRC's efforts to ensure the survival of leadership personnel and the continuity of command authority within the capital region.

Methodologically, this article draws on a diverse range of Mandarin-language sources. For the purposes of inference, the most authoritative sources are leadership statements, defense white papers, and legal documents. Even though ideas within these documents are vague, they signal broader threat perceptions and national-level priorities. For specific threat perceptions, this article draws on party journals, official party histories, state media sources, and military publications to corroborate and elaborate on the PRC's national-level priorities. Additionally, these sources can provide insights into the specific bureaucratic structures and missions of the institutions dedicated to capital defense. Lastly, books published by PLA-affiliated institutions can provide insight into specific operational concepts and potential ideas surrounding how the PLA needs to contend with the security environment. Since this article does not rely on classified sources, PRC archival sources, or classified internal-facing PRC documents, the validity of the claims about the PRC's operational-level doctrine, threat perceptions, and tactics is inherently limited. These sources, however limited, can still be used to make inferences about thinking in the PRC's broader expert community that may shape policy debates and implementation.

Political regimes often develop enduring mechanisms to contend with formative challenges. Therefore, this article traces the PRC's interest in passive and active defenses to lessons learned during the Korean War and Mao's interest in confronting nuclear blackmail during the 1969 Sino-Soviet border clashes. From

these formative experiences, the PRC developed layers of military and civilian bureaucracies that persist today to contend with the prospects of decapitation strikes. This article then examines how the 1991 Gulf War and subsequent US interventions in the Middle East deepened PRC fears of decapitation strikes against leadership and command-and-control targets and how fears of a decapitation strike endure in the priorities of PRC leadership and PLA theorists. The analysis surveys the military and civilian organizations tasked with capital protection missions before turning to contemporary PRC initiatives—civil defense infrastructure and active missile defenses—designed to protect important personnel. The article concludes that the PRC's formative experiences have created significant and enduring sensitivity to decapitation strikes, leading Beijing to dedicate considerable organizational resources toward civil defense and regional missile defense capabilities that US policymakers can exploit. The section further discusses some of the enduring asymmetries that benefit the United States in pursuing decapitation operations while acknowledging the need to develop feedback mechanisms and metrics to monitor PRC courses of action in response to such an approach.

The Historical Roots of the PRC's Capital Defenses

Dating back to the Korean War, North Korea and the Chinese People's Volunteer Army's (PVA) experiences with underground networks in defending against superior US airpower and artillery, hiding troops, smuggling supplies, and staging attacks had a profound impact on Mao's defensive initiatives and the trajectory of the PRC's civil defenses.[7] Led by Gen. Qin Jiwei's 15th Army Corps, the PVA constructed approximately three hundred tunnels that totaled around nine thousand meters. Cui Jiangong, commander of the 45th Division, lamented that, out of several poor options against a more powerful enemy, tunneling was the best tactical choice when fighting an enemy with air and naval superiority.[8] The PVA's tunneling efforts during the Battle of Triangle Hill allowed its forces to retreat amid losses, stage counterattacks, and resupply.[9]

PVA successes in repelling UN forces during the Battle of Triangle Hill, despite heavy losses, elevated Qin's fame, leading him to eventually command several military regions and rise to become the minister of national defense.[10] The PVA's successful tunneling efforts left an impression on Mao's strategic thinking, influencing the trajectory of the PRC's civil and active defense efforts. One Chinese historian connects Mao's proposal to use air-raid shelters as a defense against nuclear weapons to the perception that the PRC's extensive fortifications and tunnels during the Korean War created significant hesitancy in the US decision to employ tactical nuclear weapons.[11]

The 1969 Sino-Soviet border clashes further entrenched the PRC's predisposition toward tunneling and the development of active defenses. In response to threats by Soviet Defense Minister Andrei Grechko of a surgical nuclear strike against the PRC's nuclear facilities, Mao initiated the "dig deep tunnels, store grain everywhere" campaign.[12] Consequently, from 1969 to 1979, the CCP Central Committee and Central Military Commission mandated the establishment of the National People's Air Defense Leading Group—one for each province, city, and autonomous region.[13] These groups would lead a nationwide campaign to dig trenches and construct bomb shelters, including the eighty-five-square-kilometer "Beijing Underground City."[14] Despite facing several reforms and title changes, the civil defense institutions designed to contend with Soviet nuclear blackmail still exist, as this article later details, as PRC mobilization and civil air defense offices gear toward confounding US decapitation operations.

The border clashes would also galvanize Project 640, the PRC's ballistic missile defense program to protect the capital region. Although initiated by Mao in 1964 to counter nuclear blackmail by the United States and the Soviet Union, Chinese writings indicate that the border clashes heightened the PRC's sense of urgency in pursuing ballistic missile defense.[15] Months after the Zhenbao Island clashes, the Second Branch of the Seventh Ministry of Machine Building became the Anti-Missile and Anti-Satellite Research Institute.[16] In 1971, the Central Military Commission approved a Beijing-Tianjin defense perimeter to develop the capability to intercept fifteen to thirty incoming warheads by 1974, which the Anti-Missile and Anti-Satellite Research Institute would lead.[17] Although this plan never fully materialized and was eventually canceled under Deng Xiaoping, the interception goals, the limited operational interception ranges (given the technology at the time), and the project's geographic scope



Medical corpsmen of the 1st Battalion Aid Station, 31st Infantry Regiment, 7th US Infantry Division, assist in helping wounded infantrymen of Companies D and L, 31st Regiment, following the Battle of Triangle Hill near Kumhwa, Korea, on 14 October 1952 during the Korean War. (Photo courtesy of Wikimedia Commons)

suggest that Mao's ballistic missile defense ambitions were aimed at protecting the capital region.

Adapting to the Revolution of Military Affairs

The capability asymmetries during the Korean War and Soviet nuclear threats shape the PRC's current fears surrounding decapitation strikes and the utility of passive and active defenses. Having faced an adversary with uncontested firepower and air superiority, PRC military commanders adopted tunneling operations to reduce exposure to US firepower. The 1969 border clashes further intensified Mao's proclivities toward passive and active defenses. However, it is the PRC's assessments of US intervention after 1991 that instill fears of decapitation strikes.

The stunning pace at which the United States successfully expelled Iraqi forces from Kuwait in 1991 left a deep impression on PRC policymakers and analysts. Initial PLA assessments of the Gulf War acknowledged that the United States maintained significant air and naval superiority over Iraq while predicting that the size, discipline, and experience of the Iraqi ground forces meant that the task of expelling Iraqi forces from Kuwait would be far more difficult than past interventions in Grenada, Libya, and Panama.[18] According to Harlan Jencks, PLA analysts believed that US airpower alone was insufficient, and "Iraq's trump card was its ability to draw the United States into a lengthy bloodletting on the ground."[19] After events unfolded in the exact opposite direction, PLA Maj. Gen. Jin Yinan reflected that the US victory led the PRC to modernize by referencing the US operational model and translating large quantities of US regulations and military reports.[20]

The technological advancements associated with the revolution in military affairs and subsequent US interventions in the Middle East would increase



Remnants of the car in which Iranian Gen. Qasem Soleimani had been riding burn after a US drone strike on 3 January 2020 at Baghdad International Airport. Soleimani, shown in the inset photo from September 2016, was head of the Revolutionary Guard Corps' elite Quds Force. (Photos courtesy of Wikimedia Commons)

PRC concerns about decapitation operations against leadership and command-and-control targets. In the eyes of PRC analysts, US warfighting concepts rely on precision strikes, rapid decision-making, and information advantages over an adversary to enable decapitation strikes. One author's *PLA Daily* assessment of US operations in Iraq notes that US advantages in intelligence, joint operational command structure, and ability to adjust and carry out follow-on precision strikes make decapitation strikes a critical component of foreign military interventions.[21] Teng Jianqun, director of the Department for American Studies at the Ministry of Foreign Affairs-administered think tank China Institute of International Studies, further believes that large-scale exercises between the United States and South Korea in 2017 were intended to rehearse decapitation strikes against North Korean leadership targets.[22] One Academy of Military Sciences researcher, pointing to what he perceives as US Cold War assassinations and successful operations in the Middle East, further assesses that "when it comes to 'decapitation strikes,' no one is better than the United States."[23] A joint statement by the PRC and Russia on strategic stability further observes that US forward-deployed facilities create opportunities for decapitation strikes and is "a trend that has raised serious concerns."[24] Irrespective of the soundness of these assessments, these statements capture beliefs about how technological advancements have enabled the United States to more precisely and quickly target high-level military and political leadership.

Lessons from the Trump administration's military interventions have not gone unnoticed by the PRC strategic community. The Trump administration's authorization to conduct a drone strike against Qasem Soleimani in 2020 impressed PRC experts. This operation led Li Minghai of the PLA's National Defense University to proclaim that the use of the MQ-9 Reaper to assassinate Soleimani overturned traditional combat methods, reshaped the sensor-to-shooter kill chain, and was a "catalyst for the evolution of future intelligent warfare."[25] When analyzing the

US strike against Soleimani, another PLA analyst makes the argument in the CCP's theoretical journal *Qiushi* that the follow-on strikes that ultimately killed Soleimani after his vehicle dodged the first two missiles reflect the rapid reaction of the operators, real-time efficiency, and ability to correct mistakes in the kill chain.[26] That author further describes how rapid development in artificial intelligence and facial recognition technology has significantly enhanced the effectiveness of decapitation strikes.[27]

The interventions in Iran and Venezuela during the Trump administration's second term further reinforce PRC assessments about the US emphasis on decapitation strikes. Even before the United States launched its interventions against Venezuela and Iran, retired PLA Air Force (PLAAF) officer Zhang Xuefeng outlined the possibility of a decapitation strike in both cases.[28] After the arrest of Venezuelan President Nicolas Maduro, Zhang Junshe, a senior colonel and research fellow at the PLA's Naval Research Institute, claims that the United States has repeatedly conducted similar regime change operations from an operational perspective.[29] However, the reasoning for the US emphasis on decapitation strikes has shifted among PRC analysts. In the case of Iran, retired PLA Rocket Force (PLARF) Command College professor Shao Yongling asserts that declining military strength and dwindling resources mean that Trump can only resort to economical and efficient decapitation strikes.[30]

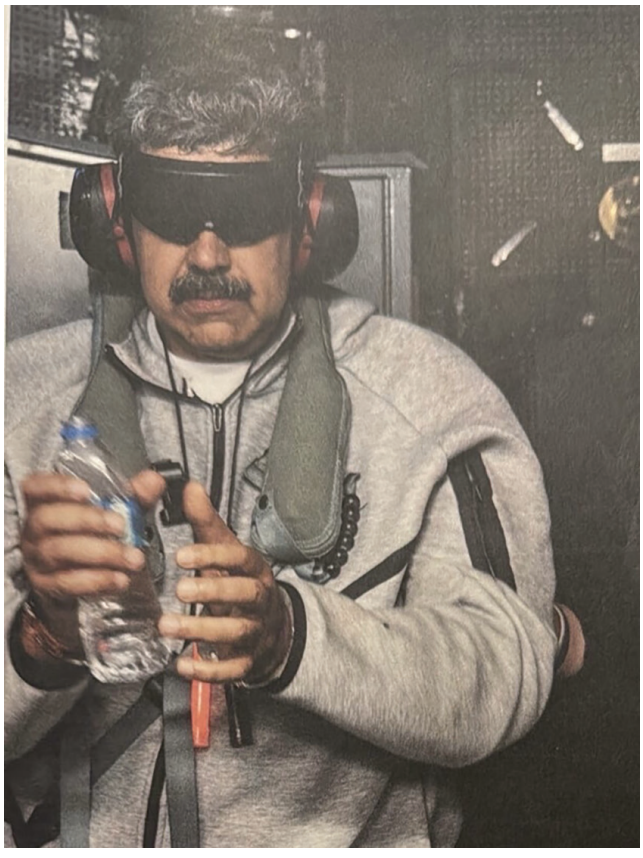
Contending against US decapitation operation has long been a feature of PLA doctrinal writings and textbooks. The PLA's *2006 Science of Campaigns* envisions an enemy air raid that prioritizes "important military, political, and economic strategic targets, including the capital," as the center of gravity.[31] The 2020 *Science of Military Strategy* (*SMS*) further reiterates that in recent local wars, the United States has chosen military and political leaders, command-and-control nodes, and television stations as primary targets, which, in its authors' view, demonstrates the importance of systems destruction warfare.[32]

Unpacking the PLA's Operational Concepts for Capital Defense

The 2013 version of *Science of Military Strategy*, however, is more instructive and describes PLA operational concepts for capital protection in greater detail. Similar to the other two texts, the authors acknowledge that improvements in long-range precision strike capabilities enable adversaries to target the PRC's capital region and other strategically vital areas.[33] In developing *countermeasures*, the 2013 *SMS* envisions joint operations among the PLA Navy (PLAN), PLAAF, PLARF, and Ground Force (PLAGF) for counterinfiltration, air defense, and early-warning missions to protect the capital.[34] Although the book was written and published before Xi Jinping transformed the military regions into theater commands (TC), capital defense missions will likely be coordinated by the Central TC, PLA Beijing Garrison, and Northern TC.

For the PRC, maintaining early warning and situational awareness is critical for capital defense and personnel protection missions. In coordination with the PLAN and PLAGF, the 2013 *SMS* views the PLAAF as playing a role in air surveillance for capital defense missions during peacetime and the development of strategic early warning platforms.[35] The 2013 *Diversified Employment of the PRC's Armed Forces* also reinforces the PLAAF's role in reconnaissance and early warning to support readiness in the capital region.[36] Although the number is currently unknown, the Central TC Air Force, primarily responsible for militarily defending the capital region, has radar brigades to detect high-altitude vehicles, though some PRC news reports suggest that the PLA is focused on improving the detection of low-altitude vehicles with small signatures.[37] As of 2017, official PRC state media reports that the PLAAF within the Central TC maintains KJ-2000 airborne early warning and control aircraft, likely to maintain situational awareness of potential threats facing the capital region.[38]

Enabled by the Central TC's radar brigades, missile and air defense missions are an indispensable component of capital defense. As PLA exercises have demonstrated, the development of early warning systems in the Central TC Air Force is, in part, to enable air and missile defense missions and the operation of surface-to-air missiles.[39] A 2016 RAND Corporation study found that the highest number of PLAAF air defense units were concentrated in the Beijing Military Region and had the largest number of training exercises between 2013 and 2014.[40] Xi warned the PLA in an internal 2017 speech that risks of airstrikes to the capital have grown and complained about



Deposed Venezuelan President Nicólas Maduro is shown hancuffed and blindfolded on board the USS *Iwo Jima* following his capture on 3 January 2026. Maduro was indicted for being heavily involved in international drug trafficking, giving safe haven to international terrorists, and having retained power through military force after a rigged 2018 election. (Photo courtesy of Wikimedia Commons)

weaknesses in the PLA's management of Beijing's air defenses.[41] Similar to the Terminal High-Altitude Area Defense system, the PLA is interested in intercepting long-range ballistic missiles as part of its capital defense. Although officially revealed in 2024, PRC news reporting found that the HQ-19, capable of ballistic missile defense and air defense missions, appeared in a Central TC promotional video with the phrase "standing guard over the capital region."[42]

The 2013 *SMS* emphasizes joint operations, the ability to coordinate personnel and capabilities from the PLAAF, PLAN, PLARF, and PLAGF to enhance the effectiveness of capital defense missions. The book, for instance, directs the PLAGF to use its own surface-to-air missiles and antiaircraft guns to support PLAN, PLAAF, and Second Artillery Corps air defense and capital protection missions.[43] One PLA air defense exercise involved collaboration between PLAGF and PLAAF brigades with PG99 towed antiaircraft guns, Type 625 antiaircraft guns, and HQ-16 surface-to-air missiles to enhance integrated operations.[44]

Part of integrated operations, the PLAN likely plays a role in providing multilayered capital protection by denying hostile forces access to the Bohai Sea. Although PRC leadership has emphasized a shift toward expeditionary forces, "near seas defense" still informs the PLAN's emphasis on preparing for and fighting local wars in and around the first island chain.[45] One analysis published by the Taiwanese Ministry of National Defense assesses that the PLAN North Sea Fleet's submarines in the Bohai Sea will play a role in protecting the capital.[46] The PLAN Coastal Defense forces in the Northern TC are also stationed around the tips of Liaodong and Shandong peninsulas to protect the entrance of the Bohai Sea from hostile forces.[47] The Bohai Sea is the only maritime approach directly adjacent to Beijing, meaning that denying hostile forces access increases the difficulty and range required from which a decapitation strike—whether through cruise missiles, carrier aviation, unmanned systems, and submarines—can be launched from sea. This geographic reality, for instance, is likely why the PLA prepares for contingencies, as demonstrated in the 2015 Bohai Sea Defense live-fire exercises against adversary beach landings and near-shore operations in the Beijing-Tianjin area.[48] Some nonauthoritative Chinese military analysts claim that the exercises in the Bohai region are intended to safeguard the country's political center and demonstrate to the United States that Beijing does not want to see a war near the PRC's coast.[49]

The PRC's increasing emphasis on "far seas protection" and expanding geographic and mission scope is also partly justified by the need to neutralize potential raids on the capital from the sea.[50] The 2013 *SMS* authors proclaim that "future air defense of the capital should primarily consider strategic air-space-cyber enabled strikes from powerful enemies originating from the sea."[51] According to the 2013 *SMS*, this requires the PLAN to "proactively deploy forward, expand the depth of its strike capabilities, bring strategic fixing [of an enemy's forces] and strike capabilities to bear, and play an important role in maintaining the security of the capital."[52] By engaging an adversary force and

holding adversary capabilities at risk from farther away, the PLAN could seek to increase the operational range of its naval assets to fix the position of an adversary's forces and enhance the effectiveness of missile strikes, with the goal of confounding US attempts at sea-based decapitation strikes. Expanding the depth of PLA strike capabilities likely refers to increasing the distances away from the PRC's coast that adversary platforms can safely operate, thereby preventing adversaries from bringing to bear capabilities at shorter ranges that can travel more quickly for decapitation strikes. This is likely to provide leadership with earlier warnings and time to take countermeasures to ensure the safety of leadership during a high-intensity conflict.

Military-Civil Fusion and Civil Defense for the Capital

One of the largest countermeasures the PRC is taking to mitigate the potential of decapitation operations is the development of large-scale passive defenses. In a 2016 *PLA Daily* article recounting Xi's meeting with delegates to the National Civil Air Defense Conference, the need to establish civil air defenses is framed as a response to an increasingly complex security environment dominated by information technology, precision strike, and multidomain operations.[53] In 2021, the Ministry of Defense revealed the Beijing Civil Air Defense Construction Plan intended to support wartime protection of the capital, command and control, personnel protection, and population evacuation in the Beijing-Tianjin-Hebei region.[54] The construction of the "Beijing Military City," a 1,500-acre underground hardened command bunker for leadership, further indicates the PRC's interest in civil defenses as a means of offsetting decapitation operations from hostile powers.[55]

Some of the institutions intended to contend with the Soviet nuclear blackmail persist today. The National People's Air Defense Leading Group, for instance, initially conceived to dig trenches and construct bomb shelters amid Soviet nuclear threats, eventually transformed into the National People's Air Defense Committee under the General Staff Department's Operations Bureau in 1981.[56] In 1994, the National People's Air Defense Committee underwent another transformation into the National Defense Mobilization Commission.[57] Previously subject to military regions, Xi's 2016 military restructuring brought this commission under the control of the Central Military Commission, further reinforcing party leadership and Xi's interest in passive defenses.[58]

Today, most civil defense missions are led by the State Council and party members at the National Defense Mobilization Commission. According to Devin Thorne's testimony before the US-China Economic and Security Review Commission, this commission—also existing at administrative levels down to the county—is a deliberative body involved in coordinating nationwide military, economic, government, labor, and material resources.[59] Of the six mobilization commission offices, the Civil Air Defense Office is the relevant body for coordinating countermeasures against air raids.[60]

The Beijing Municipal National Defense Mobilization Office is responsible for implementing civil defense initiatives for the capital region and for leadership (see tables 1 and 2).[61] Established in 2022, this office absorbed the Beijing Municipal People's Air Defense Office and retained the original civil air defense missions while it also expanded national defense mobilization functions.[62] This office, for example, is partly responsible for protecting important personnel through the implementation of the Beijing Civil Air Defense Construction Plan.[63] Although the Civil Air Defense specialized teams previously operated under the Civil Air Defense Bureau, these organizations likely continue to execute the new civil air defense missions in Beijing.[64] Specializations include emergency repair, medical care, firefighting, public security, chemical and biological containment, public communications, and transportation.[65] As part of maintaining command and control to coordinate emergency responses, the Beijing Municipal National Defense Mobilization Office also runs the National Civil Air Defense Satellite Communications System.[66] Beijing's mobilization office also operates the Beijing Municipal Militia Anti-Aircraft Artillery Command and Training Center, which is responsible for training and command of antiaircraft artillery units in Beijing.[67] Public communications, public security, and transportation Civil Air Defense specialized teams, alongside the PLA Beijing Garrison and Beijing Municipal Militia Anti-Aircraft Artillery units, will likely be tasked with protecting key leadership personnel and party members in the event of a conflict or air raids on Beijing.

Table 1. Beijing National Mobilization Defense Office Internal Departments

Category	Internal Departments (内设机构)	Chinese Name
Administrative	General Affairs Office	综合处
	Planning & Development Office	规划发展处
	Legal Affairs Office	法规处
	Finance & Planning Office	计划财务处
Operational / Technical	National Defense Mobilization Coordination Office	国防动员协调处
	Command Office	指挥处
	Communications Office	通信处
	Engineering & Production Safety Office	工程处(安全生产监管处)
	Administrative Approvals Office	行政审批处
	Propaganda & Education Office	宣传教育处
	Military Installations Protection Office	军事设施保护处
Party & Oversight	Personnel Office and Party Committee (Party Building Work Office)	人事处以及机关党委(党建工作处)
	Discipline Inspection Committee & Audit Office	机关纪委(审计处)
	Trade Union	工会

(Table by author)

Lastly, military-civil fusion is another important characteristic of the PRC's passive defenses in the capital and across the country. Elevated to a national strategy in 2014, the concept of military-civil fusion in the PRC describes a state-led and state-directed plan to leverage both state and commercial resources to strengthen and support the CCP and PLA.[68] In 1996, the Eighth National People's Congress's passage of the Civil Air Defense Law of the PRC marked a significant step toward institutionalizing military-civil fusion concepts within civil air defense. Articles 2, 3, 13, and 14, for example, address the need to incorporate civil air defense projects into urban planning and economic construction at national and local levels.[69] PLA writers continue to discuss the need to combine the military and civilian sectors during wartime and peacetime to support the national defense mobilization system.[70] Regarding the capital region, during the Fourth Plenary Meeting of the Tianjin Garrison Command's 11th Party Committee, Tianjin Party Secretary Chen Min'er emphasized the need to continuously improve military-civilian coordination to develop national defense mobilization capabilities.[71] Moreover, the Beijing Civil Air Defense Construction Plan explicitly outlines how such planning must "be integrated into the overall urban plan and national economic and social development planning" that adheres to "the principle of combining peacetime and wartime needs."[72] Xi's plenary session with the Tianjin Garrison and the construction plan's text suggest an emphasis on military-civil fusion in developing civil air defense capabilities for capital and leadership protection missions.

Exploiting Existing PRC Pathologies

As the PRC can leverage its advantages in industrial capacity to increase its missile stockpiles, naval vessels, and aircraft, policymakers must identify, reinforce, and shape the proclivities of its adversaries to exploit the PRC's organizational pathologies and to induce the mismanagement of resources. Designing

Table 2. Beijing National Defense Mobilization Office Public Institutions

Public Service Unit (事业单位)	Chinese Name	Function
Beijing Municipal Civil Air Defense Command Facility Management Center	北京市人民防空指挥工程管理中心	Responsible for operating, maintaining, and providing security for Beijing's civil air defense engineering projects and supporting equipment; provides administrative and logistical support for the office
Beijing Municipal Civil Air Defense Communication Support Center	北京市人民防空通信保障中心	Provides communications and information support for Beijing's civil air defense command and oversees the construction, management, operation, and maintenance of related equipment and facilities; operates and maintains the national civil air defense satellite communications system backup network operations center
Beijing Municipal National Defense Mobilization Office Science, Technology & Education Center	北京市国防动员办公室科技教育中心	*Function description omitted in the official website*
Beijing Municipal Civil Air Defense Engineering Quality Supervision Station	北京市人防工程质量监督站	Responsible for supervising the quality of Beijing's civil air defense project construction, verifying compliance with protection standards, organizing joint inspections, and supervising the quality behavior of enterprises that produce civil air defense equipment
Beijing Municipal Militia Anti-Aircraft Artillery Command & Training Center	北京市民兵高炮指挥训练中心	Responsible for administrative tasks related to the command and training of Beijing's militia antiaircraft artillery forces

(Table by author)

such a strategy requires identifying the mechanisms behind consistent patterns of behavior, the enduring strengths and weaknesses in the United States and the PRC, the aperture through which an adversary focuses, and feedback mechanisms to test whether changes in force structure will indeed induce an adversary's mismanagement of resources.

The PRC's historical experiences in contending with adversaries from an asymmetric position have left enduring proclivities in its national defense. The Battle of Triangle Hill during the Korean War, for instance, showed the PVA the value of tunneling and hardened underground facilities against a superior adversary. This battle would directly contribute to Qin's political rise to the position of minister of national defense, and the 15th Army would eventually become an elite airborne unit.[73] According to the official PRC historiography, Mao personally ordered the relevant departments to make a film about it as part of a broader narrative about successful resistance against the United States after learning about the Battle of Triangle Hill.[74] Especially through the recognition by the highest political leaders and the political empowerment of those who participated in the battle, this operational success and recognition continue to influence the PRC's institutional memory. Soviet nuclear threats during the 1969 Sino-Soviet border clashes would institutionalize such proclivities through the establishment of organizations dedicated to civil air defense and the development of ballistic missile defense capabilities for the capital region. The 1991 Gulf War and the revolution in military affairs, in particular, reinforced fears of decapitation strikes by the United States and enhanced the PRC's justification to take countermeasures against adversary decapitation strikes.

The PRC has several organizations dedicated to civil defense and air and missile defense in the capital

region. The Central TC and its services operate radar brigades, surface-to-air missile units, and ballistic missile defense systems. The PLA Beijing Garrison maintains antiaircraft regiments, among other units, and is explicitly tasked with capital protection.[75] Additionally, the PLAN's Coastal Defense Force in the Northern TC is likely also involved in Bohai Sea denial and capital protection missions. Additionally, the Central Military Commission's National Defense Mobilization Commission and its Civil Air Defense Office implement the Civil Air Defense Law. The Beijing Municipality National Defense Mobilization Commission and its respective prefecture and county-level offices implement civil air defense guidelines in the capital region. These organizations likely coordinate on infrastructure development, such as the construction of the Beijing Military City. Given Beijing's infrastructure projects, the military writings, and the historical factors that created enduring leadership-protection mechanisms, the PRC is highly sensitive to decapitation strikes and has significant existing predispositions toward investing in capital defense.

Exacerbating the PRC's sensitivity to decapitation strikes and pursuing capabilities that the PRC policymakers perceive to be useful for decapitation strikes may induce a measure-countermeasure competition that favors the United States. A 1976 memorandum by Andy Marshall and James Roche describes how the former Soviet Union's historical sensitivities of other countries overflying their airspace can lead to allocated resources that are out of proportion to the cost of the threat.[76] Similarly, developing survivable capabilities to hold at risk PRC leadership in Beijing and offset advances in passive defenses in the capital region could similarly increase the number of reasons for the plethora of PRC air and capital defense organizations to lobby for budgetary increases that are disproportionate with the threat.

Such a measure-countermeasure cycle would be advantageous for the United States. An arms race focused on holding the PRC capital at risk is unlikely to hinder US operations in the western Pacific in most scenarios while inducing defensive investments in the PRC that cannot directly threaten the United States. The United States is afforded greater flexibility in the employment of offensive munitions in an arms race to hold Beijing's leadership at risk, compared with the development of passive or active defenses in Beijing. While forward-deployed offensive weaponry can be redeployed and retargeted to support military objectives other than decapitation, static capital defenses, especially passive defenses, can only be used to protect Beijing without advancing operational goals in creating an inhospitable western Pacific for US forces or conducting amphibious operations in Taiwan. The asymmetry between offensive flexibility and defensive rigidity means that each dollar the PRC allocates to capital protection represents a dollar denied to the force projection and antiaccess capabilities that pose the most direct challenge to US operational objectives in the Indo-Pacific.

Additionally, there's evidence that the PRC is likely to enhance passive defenses around the capital in response to the deployment of platforms dedicated to destroying hardened bunkers. One *PLA Daily* article specifically cites that advancements in long-range precision strikes, stealth aircraft, and unmanned vehicles warrant countermeasures to mitigate the effects of air raids—including enhancing firefighting, rescue, repair, and restoration operations—and restore urban functions and social stability.[77] Forward-deploying theater nuclear weapons, conventional bunker defeat munitions, or the Robust Nuclear Earth Penetrator can all increase the effectiveness of decapitation strikes while activating adversary proclivities to develop capital defense capabilities.[78]

In developing strategies or making procurement decisions, former Secretary of Defense James Mattis often pointed out that the enemy gets a vote.[79] This similarly applies to enhancing decapitation capabilities in the Indo-Pacific. The PRC may instead choose to accelerate its nuclear expansion and/or decrease safeguards in its early-warning counterstrike posture, among a variety of potential policy options. Therefore, any strategy sensitive to how an adversary acts must incorporate feedback mechanisms to assess whether PRC countermeasures align with the expected hypothesis. As a result, sequenced deployments of platforms that can enhance decapitation operations over time provide policymakers with opportunities to withdraw or slow the deployment rates should the PRC not comply with expectations regarding the development of capital or passive defenses. ■

Notes

1. Demetri Sevastopulo et al., "China Builds Huge Wartime Military Command Centre in Beijing," *Financial Times*, 30 January 2025, https://www.ft.com/content/f3763e51-8607-42b9-9ef9-5789d5bf353d?syn-25a6b1a6=1.

2. Erin Richter and Howard Wang, "China's Transition to a War-Oriented National Defense Mobilization System," in *The PLA in a Complex Security Environment*, ed. Benjamin Frohman and Jeremy Rausch (National Bureau of Asian Research, 2025), 65–88, https://www.nbr.org/wp-content/uploads/pdfs/publications/the-pla-in-a-complex-security-environment_may2025.pdf; *China's Stockpiling and Mobilization Measures for Competition and Conflict Hearing Before the US-China Economic and Security Review Commission*, 118th Cong., 2nd sess. (13 June 2024) (statement of Devin Thorne, Principal Threat Intelligence Analyst for China Geopolitics, Recorded Future), https://www.uscc.gov/sites/default/files/2024-06/Devin_Thorne_Testimony.pdf.

3. Alastair Iain Johnston, "China's New 'Old Thinking': The Concept of Limited Deterrence," *International Security* 20, no. 3 (Winter 1995-96): 29–31, https://doi.org/10.2307/2539138.

4. Nathan Beauchamp-Mustafaga, "Don't Let Chinese Fears of a U.S. Decapitation Strike Lead to Nuclear War," *Foreign Policy*, 7 October 2025, https://foreignpolicy.com/2025/10/07/china-war-nuclear-risk-beijing-decapitation-strikes/.

5. For scholarship that discusses decapitation operations as targeting the adversary's leadership and command networks to either coerce successors into concessions, trigger overthrow from within, or sever leadership from its military and society, see Robert A. Pape, *Bombing to Win: Air Power and Coercion in War* (Cornell University Press, 1996), 80.

6. For the breadth of target sets that the PLA may consider as part of a decapitation operation, see Xiao Tianliang, ed., *The Science of Military Strategy*, trans. China Aerospace Studies Institute (CASI) (National Defense University Press, 2020), 271, https://www.airuniversity.af.edu/Portals/10/CASI/documents/Translations/2022-01-26%202020%20Science%20of%20Military%20Strategy.pdf.

7. Zhang Songshan, *Deciphering Shangganling* [in Chinese] (Beijing Publishing House, 2010), 59, https://ia601208.us.archive.org/16/items/themicrostudios_gmail_2007/%E8%A7%A3%E5%AF%86%E4%B8%8A%E7%94%98%E5%B2%AD.pdf; "Cui Jiangong: 'The 45th Division Vows to Live or Die with Its Position!' [in Chinese]," Over the Party History, http://www.handandangshi.gov.cn/zongheng/437.html, archived 26 April 2026 at https://archive.is/wOFIp.

8. Zhang, *Deciphering Shangganling*, 59.

9. Zhang, *Deciphering Shangganling*, 86, 95; Walter G. Hermes, *Truce Tent and Fighting Front: United States Army in the Korean War* (US Army Center of Military History, 1966), 314–16.

10. James Miles, "Obituary: Qin Jiwei," The Independent, 17 February 1997, https://www.the-independent.com/news/people/obituary-qin-jiwei-1279287.html.

11. Wang Anzhong, "Dialectical Thinking and Mao Zedong's Nuclear Strategic Thought [in Chinese]," *Modern Philosophy*, no. 2 (2017), https://www.cssm.org.cn/view.php?id=33441, archived 6 December 2025 at https://archive.is/BuMZ5.

12. "Project 640: China's Secret Anti-Missile Research Over the Past 45 Years," China Radio International Online, https://news.sina.cn/sa/2010-01-15/detail-ikmxzfmi9638244.d.html, archived 6 December 2025 at https://archive.is/PiVO7.

13. "Chronology of Major Events in the Communist Party of China: 1969," News of the Communist Party of China, https://cpc.people.com.cn/GB/64162/64164/4416087.html, archived 26 April 2026 at https://archive.is/Bealu.

14. Zhang Hui, "Beijing's 'Underground City' to Be Demolished," *Global Times*, https://www.globaltimes.cn/content/533365.shtml, archived 26 April 2026 at https://archive.is/25izR; "Beijing's Underground City Is No Longer a Secret [in Chinese]," *Beijing Evening News*, https://www.beijing.gov.cn/renwen/jrbj/202011/t20201118_2138742.html, archived 26 April 2026 at https://archive.is/fBeIb.

15. China Radio International Online, "Project 640."

16. Ji Wenbo, "Project 640: The Development and Background of China's First Generation Ballistic Missile Defense Project [in Chinese]," Institute of Contemporary China Studies, archived 14 July 2014 at https://web.archive.org/web/20140714211954/http://www.iccs.cn/contents/457/8870.html.

17. Ji, "Project 640."

18. Harlan W. Jencks, "Chinese Evaluations of 'Desert Storm': Implications for PRC Security," *Journal of East Asian Affairs* 6, no. 2 (1992): 454, https://www.jstor.org/stable/pdf/23253951.pdf.

19. Jencks, "Chinese Evaluations of 'Desert Storm,'" 454.

20. "The War 26 Years Ago Deeply Shocked the People's Liberation Army. The More Battles the U.S. Military Engages In, the Smaller the Gap Between the U.S. and PRC Military Becomes! [in Chinese]," Shangguan News, https://web.shobserver.com/wx/detail.do?id=64377, archived 16 March 2026 at https://archive.is/q3Xs7.

21. Li Jingguang, "Why Are 'Decapitation' Operations in Modern Warfare So Highly Favored?," *PLA Daily*, http://www.81.cn/zggfs/2017-01/24/content_7465628.htm, archived 11 December 2025 at https://archive.is/8nJCC.

22. "Expert: U.S. and South Korean Conduct Decapitation Exercises, Fearing North Korea's Retaliatory Capabilities [in Chinese]," *People's Daily*, http://military.people.com.cn/n1/2017/0323/c1011-29164175.html, archived 11 December 2025 at https://archive.is/e1nCz.

23. Hou Angyu, "South Korea Pursues Decapitation Operations, Enlisting the United States as a 'Seasoned Guide' [in Chinese]" *Global People*, no. 2 (2017), https://paper.people.com.cn/hqrw/html/2017-01/16/content_1760059.htm, archived 17 March 2025 at https://archive.is/XGajf.

24. "Joint Statement of the People's Republic of China and the Russian Federation on Global Strategic Stability [in Chinese]," PRC Ministry of Foreign Affairs, https://www.fmprc.gov.cn/web/wjb_673085/zzjg_673183/jks_674633/fywj_674643/202505/t20250509_11617805.shtml, archived 17 March 2026 at https://archive.is/gq1Sa.

25. Li Yue, "Fast! Precise! Lethal! U.S. Military Drones Conduct Decapitation Operations, Upending Traditional Modes of Warfare [in Chinese]," *PLA Daily*, http://www.81.cn/bq_208581/9870238.html, archived 17 March 2026 at https://archive.is/ZVn3v.

26. Wu Minwen, "'Decapitation' Operations Present a Distinctive Landscape [in Chinese]," *Qiushi Theory*, https://www.qstheory.

cn/llwx/2020-04/14/c_1125852551.htm, archived 17 March 2026 at https://archive.is/alECA.

27. Wu, "Decapitation."

28. "With a Massive U.S. Military Force Massing on Its Border, Venezuela Mobilizes Its Entire Population [in Chinese]," Xinhua News, https://www.news.cn/milpro/20251203/b6be-848f43e34338925a47a2b9bd2633/c.html, archived 17 March 2026 at https://archive.is/7mQtQ; Xie Hui, "The Cloud of U.S. Interference in Iran Lingers [in Chinese]," *PLA Daily*, http://www.81.cn/szb_223187/szbxq/index.html?paperName=jfjb&paperDate=2026-01-24&paperNumber=04&articleid=971586, archived 17 March 2026 at https://archive.is/dfvTT.

29. Liu Xuanzun and Liang Rui, "Chinese Military Affairs Experts Analyze US Strikes in Venezuela and)peration to Capture Maduro," *Global Times*, archived 3 January 2026 at https://web.archive.org/web/20260103202301/https://www.globaltimes.cn/page/202601/1352145.shtml.

30. "Why Is the U.S. So Keen on 'Decapitation' Tactics? Expert Analysis [in Chinese]," *Beijing Daily*, https://news.bjd.com.cn/2026/03/03/11610491.shtml, archived 17 March 2026 at https://archive.is/fhEwW.

31. Zhang Yuliang, ed., *The Science of Campaigns*, trans. CASI (National Defense University Press, 2006), 376, https://www.airuniversity.af.edu/Portals/10/CASI/documents/Translations/2020-12-02%20In%20Their%20Own%20Words-%20Science%20of%20Campaigns%20%282006%29.pdf.

32. Xiao, *The Science of Military Strategy*, 271.

33. Shou Xiaosong, ed., *The Science of Military Strategy*, trans. CASI (Military Science Press, 2013), 250, https://www.airuniversity.af.edu/Portals/10/CASI/documents/Translations/2021-02-08%20Chinese%20Military%20Thoughts-%20In%20their%20own%20words%20Science%20of%20Military%20Strategy%202013.pdf.

34. Shou, *The Science of Military Strategy*, 250.

35. Shou, *The Science of Military Strategy*, 250.

36. "Diversified Employment of the PRC's Armed Forces [in Chinese]," State Council Information Office, https://iq.china-embassy.gov.cn/chn/zt/zgzfbps/201304/t20130417_2516001.htm, archived 18 March 2026 at https://archive.is/xjVU8.

37. "A Good Pair of 'Golden Fire Eyes'—Examining a Central Theater Command Air Force Radar Brigade Fourth-Class Master Sergeant Liu Weixiu [in Chinese]," Xinhua News, https://www.xinhuanet.com/mil/2016-09/21/c_129292000_2.htm, archived 18 March 2026 at https://archive.is/NpMM3.

38. Zhang Mimi et al., "Four Major Highlights of the Aerial Combat Group in the Parade Marking the 90th Anniversary of the PLA's Founding [in Chinese]," Xinhua News, https://www.xinhuanet.com//politics/2017-07/30/c_1121403840.htm, archived 18 March 2026 at https://archive.is/F8zDr; Wang Jingguo and Mei Changwei, "The 'Eagle of the Central Plains' Sheds Its Feathers and Spreads Its Wings on the Battlefield [in Chinese]," Xinhua News, https://www.rmzxw.com.cn/c/2017-07-31/1691064.shtml?n2m=1, archived 18 March 2026 at https://archive.is/U2yRv.

39. Tan Jingqing and Cao Yiming, "A Case Study in 'Systems-Based Training' from an Elite Central Theater Command Air Force Surface-to-Air Missile Brigade [in Chinese]," *PLA Daily*, http://www.81.cn/kj_208559/jdt_208560/10022318_2.html, archived 18 March 2026 at https://archive.is/NNP0w.

40. Bonny Lin and Cristina Garafola, *Training the People's Liberation Army Air Force Surface-to-Air Missile (SAM) Forces* (RAND Corporation, 2016), 19–21, https://www.rand.org/pubs/research_reports/RR1414.html.

41. Beauchamp-Mustafaga, "Don't Let Chinese Fears of a U.S. Decapitation Strike Lead to Nuclear War."

42. "The HQ-19 Surfaces Again, with Indicators Suggesting It Has Already Been Deployed for Combat, How Does Its Performance Compare to the U.S.-Made THAAD System?," QQ News, archived 10 May 2023 at https://web.archive.org/web/20230510201307/https://new.qq.com/rain/a/20221114A03HVL00.

43. Shou, *The Science of Military Strategy*, 250.

44. Zhang Yajie, ed., "Air and Ground Forces Conduct Systematic Air-Land Drill," *PLA Daily*, http://eng.chinamil.com.cn/2025x-b/M_251449/V_251467/16445526.html, archived 18 March 2026 at https://archive.is/Obaos.

45. Jennifer Rice and Erik Robb, "The Origins of 'Near Seas Defense and Far Seas Protection,'" *CMSI China Maritime Report*, no. 13 (2021): 5–6, https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1012&context=cmsi-maritime-reports.

46. Hu Minyuan, "Speculations on the Role and Application of Chinese Submarine Forces in Offshore Active Defense," *Navy Professional Journal* 52, no. 6 (2018): 17, https://navy.mnd.gov.tw/Files/Paper/1-%E8%A0%A1%E6%B8%AC%E4%B8%AD%E5%85%B1%E6%BD%9B%E8%89%A6%E9%83%A8%E9%9A%8A.pdf.

47. Daniel C. Rice, *The PLA Navy Coastal Defense Missile Force* (CASI, 8 April 2024), 22, https://www.airuniversity.af.edu/Portals/10/CASI/documents/Research/PLAN/2024-04-081%20PLA%20Navy%20Coastal%20Defense%20Guided%20Missile%20Force.pdf.

48. "The Final Battle of 'Bohai Sea Defense-2015': Blue Army Landing Craft and Tanks Destroyed (Photo) [in Chinese]," *PLA Daily*, archived 26 April 2026 at https://web.archive.org/web/20260426193020/https://military.people.com.cn/BIG5/n/2015/1111/c1011-27802617.html.

49. Kristin Huang, "Chinese Navy Keeps Firm Focus on Northern Shores as North Korean Tensions Rise," *South China Morning Post*, 7 September 2017, https://www.scmp.com/news/china/diplomacy-defence/article/2110233/chinese-navy-keeps-firm-focus-northern-shores-north.

50. Rice and Robb, "The Origins of 'Near Seas Defense and Far Seas Protection,'" 11–14.

51. Shou, *The Science of Military Strategy*, 209–10.

52. Shou, *The Science of Military Strategy*, 209–10.

53. "Build a Strong and Robust Modern Civil Air Defense System [in Chinese]," *PLA Daily*, https://gdb.fujian.gov.cn/xxgk/fgxc/201605/t20160517_1759732.htm, archived 13 December 2025 at https://archive.is/QC96U.

54. Yue Yang and Li Na, "Joining Hands with Tianjin and Hebei to Build the Capital's Modern Civil Air Defense System [in Chinese]," PRC National Defense News, http://www.mod.gov.cn/gfbw/gfdy/rmfk/4883836.html?big=fan, archived 13 December 2025 at https://archive.is/JptTu.

55. Sevastopulo et al., "China Builds Huge Wartime Military Command Centre in Beijing."

56. Wang Zuodong, "The Five Changes in Our Country's Civil Air Defense Systems," CPC News Network, http://dangshi.people.com.cn/n/2013/0322/c138896-20877921-2.html, archived 18 March 2026 at https://archive.is/C8hpP.

57. Wang, "The Five Changes in Our Country's Civil Air Defense Systems."

58. Yu-Ping Chang, "National Defense Mobilization: Toward A Clear Division of Labor between the PLA and Civilian Bureaucracies," *China Brief* 24, no. 6 (2024), https://jamestown.org/national-defense-mobilization-toward-a-clear-division-of-labor-between-the-pla-and-civilian-bureaucracies/.

59. Thorne, testimony.

60. Chang, "National Defense Mobilization"; "What Exactly Are the Functions of the Civil Air Defense Office? What Is the Significance of Civil Air Defense Work in This New Era? [in Chinese]," Hengyang Municipal Civil Air Defense Office, https://www.hengyang.gov.cn/ccad/hdjl/wtfk/20200201/i442146.html, archived 19 March 2026 at https://archive.is/A2lwc.

61. "Institutional Functions and Structures [in Chinese]," Beijing Municipal National Defense Mobilization Office, https://gdb.beijing.gov.cn/rf_zwgk/rf_jgznysz/, archived 26 April 2026 at https://archive.is/gmnl1.

62. "Beijing Municipal National Defense Mobilization Office Is Officially Established [in Chinese]," China National Defense Daily, http://military.people.com.cn/n1/2023/0105/c1011-32600448.html, archived 23 February 2023 at https://archive.is/4WhHs.

63. Yang and Li, "Joining Hands with Tianjin and Hebei."

64. "Categories of Specialized Civil Air Defense Teams [in Chinese]," Beijing Civil Defense Bureau, https://gdb.beijing.gov.cn/rf_rfwh/rf_tsrf/201911/t20191126_573514.html, archived 19 March 2026 at https://archive.is/qscX4.

65. "Categories of Specialized Civil Air Defense Teams."

66. "Institutional Functions and Structures."

67. "Institutional Functions and Structures."

68. Alex Stone and Peter Wood, *China's Military-Civil Fusion Strategy* (CASI, 10 June 2020), 21–40, https://www.airuniversity.af.edu/Portals/10/CASI/documents/Research/Other-Topics/2020-06-15%20CASI_China_Military_Civil_Fusion_Strategy.pdf.

69. Civil Air Defense Law of the People's Republic of China (中华人民共和国人民防空法) (promulgated by the Standing Committee of the Eighth National People's Congress, 29 October 1996, effective 1 January 1997), art. 2, 3, 13, 14, https://flk.npc.gov.cn/detail?id=2c909fdd678bf17901678bf6fd390523&fileId=&type=&title=中华人民共和国人民防空法, archived 26 April 2026 at https://archive.is/6FJif.

70. Jia Erbing, "The Central Military Commission's Party Committee of the National Defense Mobilization Committee Conducts an 'View of Struggle in the New Era' In-Depth Discussion [in Chinese]," *PLA Daily*, archived 10 May 2024 at https://web.archive.org/web/20240510230251/http://www.81.cn/jw_208551/16307401.html.

71. "Deeply Study and Implement Xi Jinping's Strengthening the Military to Drive New Achievements in National Defense Mobilization and Reserve Force Building [in Chinese]," *Tianjin Daily*, https://news.cctv.com/2024/01/30/ARTIAUliagxRrshs2nx4d4EQ240130.shtml, archived 19 March 2026 at https://archive.is/umCe7.

72. Yang and Li, "Joining Hands with Tianjin and Hebei."

73. "Nine PLA the Nine PLA Army Commanders Acknowledged by the U.S. Military as the Most Formidable During the Korean War (Photo Gallery) [in Chinese]," *People's Daily*, archived 26 April 2026 at https://web.archive.org/web/20260426234215/https://politics.people.com.cn/n/2013/0511/c70731-21445924-4.html.

74. Rao Shuguang, "'Shangganling': Using Film to Leave an Important Spiritual Legacy for the Entire Nation [in Chinese]," CPC News, archived 26 April 2026 at https://web.archive.org/web/20260426234655/https://dangshi.people.com.cn/n1/2020/1021/c85037-31899809.html.

75. "The Beijing Garrison Anti-Aircraft Artillery Regiment Encountered Constant 'Enemy Activity' on the Way to Its Training Location [in Chinese]," *People's Daily*, archived 26 April 2026 at https://web.archive.org/web/20260426235213/https://military.people.com.cn/n/2015/0605/c1011-27107392.html.

76. Andrew W. Marshall and James G. Roche, memorandum, "Strategy for Competing with the Soviets in the Military Sector of the Continuing Political-Military Competition," July 1976, https://americawar.wordpress.com/wp-content/uploads/2012/12/marshallonsoviet.pdf.

77. Yue Guiyun and Cheng Cimin, "Modern Air Defense Faces the 'Transformation of Air Strikes' [in Chinese]," *PLA Daily*, http://www.81.cn/jfjbmap/content/2022-01/13/content_307260.htm, archived 24 March 2026 at https://archive.is/WZkln.

78. Kyle Balzer, "Why the 'Robust Nuclear Earth Penetrator' Bomb Deserves a Second Chance," *The Buzz* (blog), *National Interest*, 19 March 2026, https://nationalinterest.org/blog/buzz/why-robust-nuclear-earth-penetrator-bomb-deserves-second-chance.

79. Greg Myre and Steve Inskeep, "Jim Mattis: 'Nations with Allies Thrive, Nations Without Allies Wither,'" National Public Radio, 2 September 2019, https://www.npr.org/2019/09/02/756681750/jim-mattis-nations-with-allies-thrive-nations-without-allies-wither.

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Winning the War for the Mind

Why the Pentagon Needs an Under Secretary of War for Information

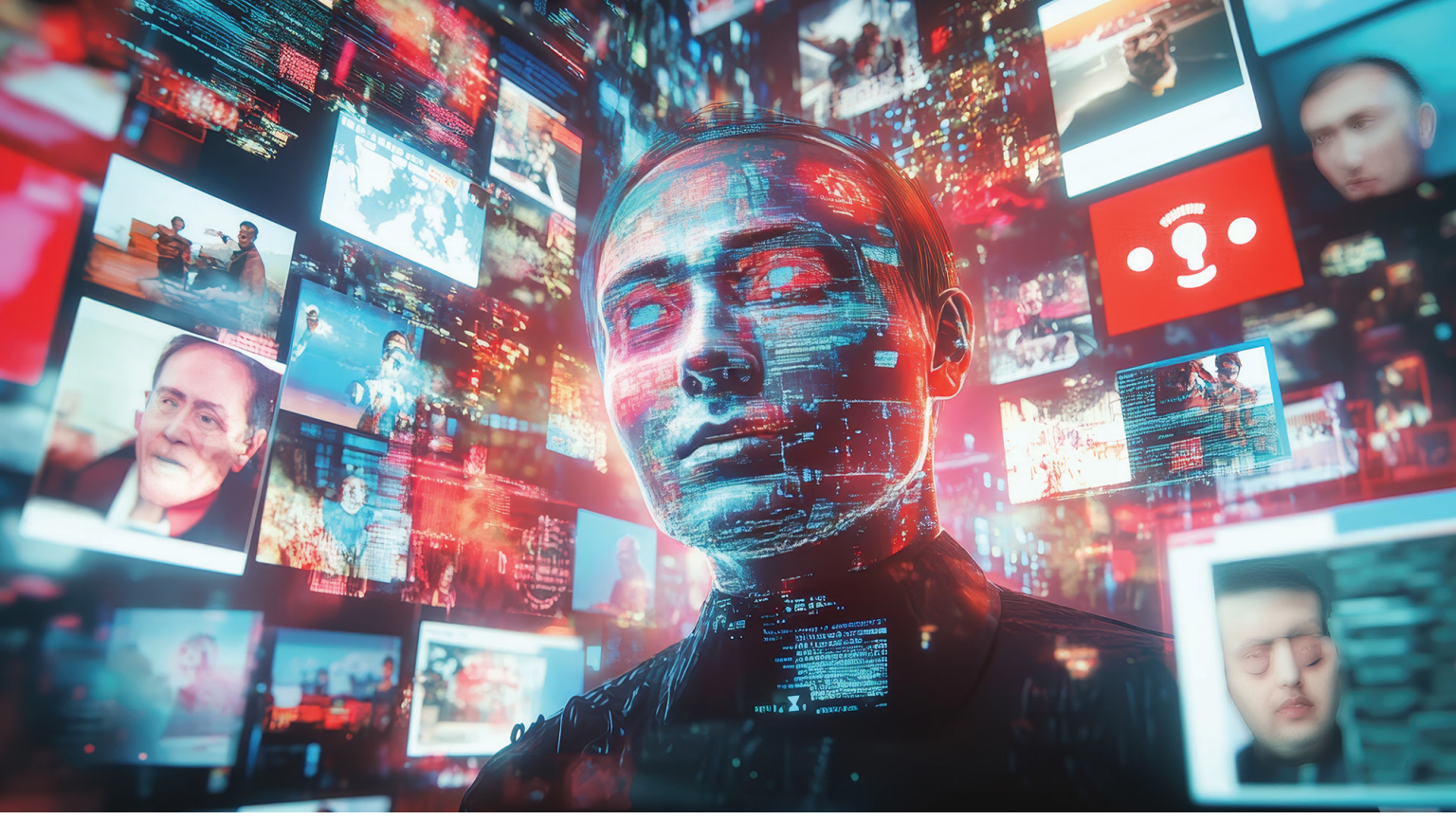
Col. Chaveso "Chevy" Cook, PhD, US Army
Lt. Col. Matthew Divico, US Army
Lt. Col. Tucker Knie, US Army
Maj. Bryan Anderson, US Army
Robert Kellogg
Kurt Schell

It's not enough to simply keep pace—we must continually adapt and innovate to outmaneuver and outthink those who seek to challenge us.

—Gen. J. Daniel Caine,
Chairman of the Joint Chiefs of Staff

The ubiquity of the internet and social media has exponentially contributed to a globally connected "information culture." Unlike fruit, this info culture maintains its ripeness, not just for consumption but also for exploitation. As such, some argue that a "cyber 9/11" is coming; however, these 9/11-like events in the form of large suicide bombs will be replaced by mass media exploitation, political chess, electoral manipulation, and cyber intrusion via social influence mediums.[1] In stride, the August 2023 release of Joint Publication (JP) 1, vol. 1, *Joint Warfighting*, designated information as a joint function.[2] The elevation of information to the role of a joint function reflects prioritization—and acknowledgement—that information is critically important to warfighting, and that the Department of War (DoW) must harness information to compete against adversaries in the modern era.

In an age where the battlefield extends far beyond the physical arena, the concepts and approaches within the realms of information and perception have become critical tools in shaping both national security and global influence. Yet, despite this growing threat, the DoW has struggled with how to best prioritize and resource operations in the information environment (OIE). Many leaders, most vocally retired Gen. Bryan Fenton, the former commanding general of US Special Operations Command, have stated that the joint force



Accomplishing strategic information objectives requires careful planning that incorporates sufficient military capabilities synchronized with commensurate logistics; sound prediction of the duration of a conflict based on historical precedent and accurate strategic intelligence; realistic political/military assumptions and resulting diplomatic actions; awareness of the limitations imposed by the cultural environment in which operations will be conducted; and careful management of all information resources including public affairs, cyber, deception, psychological, and covert information operations. (Photo from Adobe Stock)

is far behind our adversaries when conducting OIE, citing an atrophy of information prowess after the Cold War, the precedence of kinetic actions over nonkinetic information activities, and an interagency concurrence process that can be seemingly halting.[3] To wit, instead of tactical actions driving narratives, arguably narratives should drive the tactical, operational, and strategic activities of the joint force.[4]

The dedication of a combatant command, US Cyber Command, to one portion of OIE has shown the importance of this spectrum of battlefield. While cyber has risen in prominence, the US military's broader influence capabilities have seen mixed prioritization—particularly given the paradox of cuts to Army psychological operations (PSYOP) forces while also merging them with the Army's information operations (IO) functional area forces into one branch.[5] Public affairs (PA) tends to be its own special staff section, cleaved from other influence capabilities due to its ability to be directed toward the American populace. The joint force is at a critical inflection point and more must be done. This article contends that to match the emerging threats in the information environment, the Pentagon must establish an Under Secretary of War for Information (USW[I]). This new office would centralize and elevate the critical role of information and influence across the DoW, ensuring the United States remains competitive in today's cognitive and information-centric conflicts.

Setting the Stage: The Historical, Doctrinal, and Governmental Context

Historically, there are many examples of the US military conducting external influence (i.e., psychological operations, military deception) since World War II.[6] Information has long been broadly understood (and misunderstood) as only being related to the intelligence function, as in unprocessed intelligence was simply information.[7] Moreover, communication was generally more about internal communication than external audiences. IO doctrine has been around for at least



Attendees of the Spring 2025 Joint Deployment and Distribution Enterprise Board listen to opening remarks on 20 May 2025 at the Washington Army National Guard Readiness Center in Moses Lake, Washington. The board brings together senior leaders from across the joint force to address strategic logistics challenges, foster collaboration, and enhance warfighting readiness. A similar Department of War-level board is necessary to deal with myriad increasingly complex challenges related to information that are emerging due in large measure to the sophistication and speed of modern communications technology together with evolving international relationships. (Photo by Sgt. Shadica T. Price, US Army)

ten years. However, after decommissioning the US Information Agency in the late 1990s and transferring its functions as a secondary mission within the State Department, influencers have had no unifying agency to coordinate messaging across the spectrum of influence, let alone the internet.[8]

Information differs from other joint functions. Whereas the other functions are clearly understood and controlled by the joint force commander, information capabilities lack a singular, clear structure for responsibility within the DoW (currently split among the Under Secretaries for Policy [USW(P)] and Intelligence and Security [USW(I&S)], and a special Assistant to the Secretary of War for Public Affairs [ATSW(PA)]); and informational activities routinely impact audiences inside and outside of the joint operational area. The inability of a commander to gain and maintain advantage from friendly information activities, whether positive or negative, and rapidly react to the wide-ranging effects of adversary information activities hinders leaders' complete adoption of the function.

Doctrinally, JP 3-04, *Information in Joint Operations*, states that *information* is "data in context to which a receiver assigns meaning."[9] Receivers include humans and automated systems, and each may acquire information in a variety of ways.[10] It goes on to define the *information environment* as the "aggregate of social, cultural, linguistic, psychological, technical, and physical factors that affect how humans and automated systems derive meaning from, act upon, and are impacted by information, including the individuals, organizations, and systems that collect, process, disseminate, or use information."[11] Broadening the concept to more than just IO, there also is a definition for *OIE*, which are "military actions involving the integrated employment of multiple information forces to affect drivers of behavior."[12] There are multiple layers here to consider.

Perception does not have a joint definition. In parallel to information and OIE, there is an accepted Office of the Secretary of War (OSW) definition of *perception management*, which is defined through a policy memorandum signed by the Operational Support Activity

(formerly the Influence and Perception Management Office) within the USW(I&S). This memorandum states that perception management involves "activities which are developed, planned, and executed by DoW Components to deliberately conceal or selectively reveal information to a foreign audience, concerning U.S. War capabilities and their associative indicators, to influence a defense-related foreign decision-maker to behave in a manner beneficial to U.S. interests."[13] As such, the various definitions regarding information, perception, the information environment, and OIE cross a number of information flows and potential methods of influence.

As information evolves and new influence methods have emerged (from print to digital, radio to podcast, etc.), the department has typically assigned responsibility for these developments to existing offices to perform the oversight, resourcing, and authority-granting roles within the department. This often involves repurposing offices not specifically designed for these roles. For example, the War Media Activity (formerly the Defense Media Activity) was originally stood up as a consolidation of joint force media and broadcasting equities alongside base realignment and closure efforts. Today, they are charged with providing communication and information services that support readiness and our national defense but not oversight to joint force inform and influence forces. Consequently, the DoW has a patchwork of offices with responsibilities cross-cutting multiple under secretaries within the OSW; as aforementioned, PA has an ATSW(PA). The current structure at the top of the DoW, which has existed across administrations, allows for a mixed allocation of responsibility, contributing to structural inefficiencies and a desynchronization regarding information capabilities and policy across the joint force.

Testimony from senior officials in the 2022 National Defense Authorization Act hearings highlighted gaps in US IO capabilities, advocating for more focused leadership and structure for the information domain.[14] The DoW arguably has struggled for decades to bring a singular voice and management process to its infrastructure around information and communication.[15] While this is a discussion about OSW structure, which does not directly align and correspond to the joint warfighting functions, doctrinal concepts are less relevant when an under secretary would need to also oversee acquisition, force development, and force design. While controversial, the DoW has not created a new under secretary since 2002, and the world has changed dramatically since then.

At the time of this writing, there is a new Deputy Assistant Secretary of War (DASW) for Strategic Influence and Information Policy (SIIP) who started in summer 2026; yet, it is nascent in realigning its internal lines of effort and offices and does not have the role required to fully consolidate and coordinate efforts external to the USW(P). To address all of the above concerns, beyond doctrine, the department must consider not only the creation of an Under Secretary of War for Information but also a consolidation of PA, military deception, PSYOP, and cyber equities into the USW(I)'s purview to exercise planning, policy, and strategic oversight of all DoW information and perception management activities. Going forward, this is how the DoW will achieve unity of action regarding departmental themes and topics across OIE.

The Cognitive Front Line: Setting the Global Stage

In today's global security environment, there is little doubt that winning conflicts is no longer just about tanks and missiles. The battle for perceptions has become equally, if not more, crucial. Information and perception are the new front lines of warfare, lawfare, and competition, with adversaries such as Russia and China, and nonstate actors such as extremist groups and narcoterrorists mastering influence campaigns that destabilize governments and divide societies. State and nonstate actors have recognized the potential of the information environment as a space where conflict can be conducted with minimal risk and maximum impact. The modern battlespace is more connected, digitized, and perceptual than ever before.

Adversaries increasingly leverage OIE to shape US public opinion, destabilize US allies and partners, and sow discord among ally and partner populations. Targeting the minds of both military personnel and civilians has become a powerful tool in asymmetric conflicts; yet JP 3-60, *Joint Targeting*, says targeting mainly applies to adversaries and enemy, not civilians and nonadversary personnel, which creates tension between OIE and the joint targeting cycle.[16] Russia's hybrid warfare tactics, particularly its use of disinformation during the annexation of Crimea in 2014 and

the most recent Ukrainian conflict, demonstrate how influence campaigns can achieve strategic outcomes with or without shots being fired.[17] China's use of "wolf warrior diplomacy," combined with its global disinformation efforts, exemplifies how perception-shaping can extend national power far beyond traditional boundaries but also increasingly close to and within DoW interests.[18]

In the United States, the importance of OIE has been acknowledged in key strategic documents for some time, such as in the 2018 *National Defense Strategy*, which calls for the US military to "compete effectively below the level of armed conflict."[19] PSYOP, cyber, deception, and PA allow for engagement in the so-called "gray zone," where adversaries operate below the threshold of conventional warfare, using information to erode US power and influence. More colloquially referenced as *cognitive warfare*, a place that "degrades the capacity to know, produce, or thwart knowledge," more and more discussions highlight not only cognitive warfare as a growing threat vector but also show how "human capital is a weak point in a nation's defense, particularly for nations that are highly connected and [open]."[20] The advent of cognitive warfare across the gray zone, where traditional boundaries between war and peace are blurred, has only heightened the importance of competing in the information environment. Information advantage is no longer a supplementary aspect of military operations—it is often a decisive factor in the success or failure of a mission. Whether it's countering Russian disinformation campaigns in eastern Europe, shaping narratives in the Indo-Pacific, or deterring narcoterrorists in the Western Hemisphere, gaining decisive advantage in the information environment is as critical as any kinetic engagement.

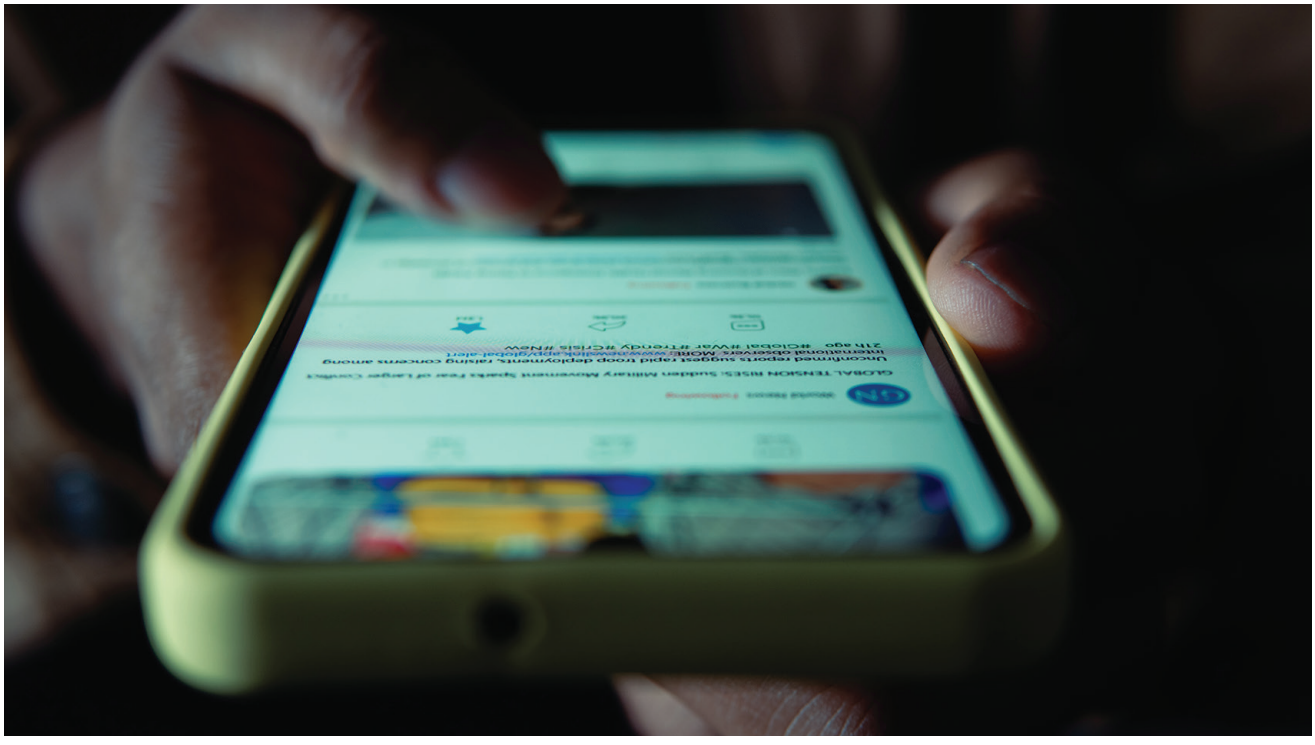
In this context, the role of OIE and the associative information forces become indispensable. Information forces specialize in influencing the attitudes and behaviors of adversaries, allies, and neutral audiences alike. Public affairs tell the story. Cyber and space operations are domains through which information flows. An understanding of OIE and the articulation of its impacts on kinetic operations is the key to integrating and synchronizing multiple aspects and effects of competition and conflict. The ability of the joint force to conduct influence campaigns that support strategic objectives, both during conflict and in peacetime, will be a linchpin of modern military operations. Managing the perceptions of the United States' adversaries by selectively revealing and concealing capabilities furthers and deepens America's ability to influence.

As the information environment, including the PA, cyber, and space domains, become a primary theater of war for the joint force, the United States must prioritize these capabilities and approaches to maintain an edge over adversaries who have already recognized their importance. Whereas this may seem like a straightforward and common-sense approach, it has been quite the contrary. At this juncture, a look into two case studies will help explain why this is the situation and further shape why prioritization is so important.

Case Study No. 1: A Paradox of Prioritization

Since a USW(I) does not yet exist, the services have a stronger ability to dictate the force structure applied to these capabilities. The Air Force and Navy focus more on cyber and electronic warfare capabilities, for example. As the Army has the preponderance of influence forces, an even more glaring case has played out in the Army's cuts to PSYOP forces. On the one hand, influence operations have never been more important for our Nation; on the other hand, the military seems to be deprioritizing one of its key assets for conducting these operations (led by the Army as the largest force provider for information forces). Such a contradiction sends mixed signals to both allies and adversaries. It also risks weakening the United States' ability to compete in the critical areas of information and perception. Cutting these forces only weakens our lethality and slows our ability to be as transformative as possible in a rapidly changing aspect of modern conflict.

One could argue that the rise of digital technologies and super intelligence, or SI (originally written as artificial intelligence, amended in accordance with Executive Order No. 14434, "Inaugurating the Era of Super Intelligence"), tools might fill the void left by reduced information forces and associated formations, but that perspective overlooks the human element of OIE. While technology can amplify messaging, the expertise required to craft, deliver, and adapt influence campaigns is inherently human. PSYOP, military deception, and other information-based influence approaches by their very nature rely on understanding the complex



Cell phone technology has created the greatest challenge to management of public policy regarding the dissemination of information in human history. The cell phone provides an unparalleled means to communicate both verifiable facts as well as distortions and falsehoods instantaneously around the globe. Consequently, national civic leaders who have a vested interest in effective administration of public policy require new technical means as well as new organizational methodology for managing both factual information and mitigating adverse effects of misinformation from malign actors. Military leaders also require an understanding of not only how such technology affects military campaigning from the vantage point of public perceptions but also how such new technology can be weaponized against adversaries within the boundaries of law and ethics. (Photo from Adobe Stock)

social, cultural, and psychological factors that shape behavior. If influence is the digital bullet, regardless of the delivery means the mind remains the gunpowder in the "shell casing."[21]

Moreover, these cuts may embolden adversaries who have already placed a premium on strategic and operational influence capabilities. Russia's notorious "troll farms" and China's sophisticated use of soft power and propaganda in global forums are just a few examples of how adversaries are outpacing the United States in the information environment. Without a dedicated focus on information and perception, the DoW risks falling behind in this critical arena, to the detriment of national security.

Case Study No. 2: The ASW for Cyber Policy

The establishment of the DASW for Cyber Policy in 2011 and further elevation to Assistant Secretary of War (ASW) in 2024 is a recognition that the cyber domain of OIE is relevant, important, and requires the highest levels of civilian leadership and oversight.[22] The creation of the ASW for Cyber Policy was a response to growing threats in the cyber domain—threats that were recognized but not adequately addressed within the existing DoW structure. To be clear, ASW (Cyber Policy) gave the DoW an offensive cyber focus, as the DoW chief information officer (CIO) gives us a defensive cyber focus. To muddy the matter, however, the ASW (Cyber Policy) reports to the USW(P), unless they are operating in their legislatively codified role as primary cyber advisor to the secretary of war (SECWAR). This is all while the DoW CIO is always a direct report to the SECWAR.

Like cyber warfare before 2024 and 2011, OIE is currently fragmented across various parts of the national security apparatus, with no centralized authority to provide leadership, guidance, or advocacy. The ASW (Cyber Policy) consolidated offensive cyber efforts, giving cyber warfare the prominence it required within



A comprehensive national information coordination process is now essential to effectively counter the concerted and massively funded information operations organized by malign actors like China against the United States. Increasingly, China and other adversaries weaponize the informational features of democratic open society—such as freedom of the press, freedom of expression, broad access to the internet—in organized campaigns that aim to undermine US social and economic stability and national security. (SI image generated by Gerardo Mena, Army University Press)

the Pentagon, at the policy level of course. This made headway for the warfighter in the US Cyber Command and other formations beyond Fort Meade, Maryland. Therefore, whereas the establishment of the ASW (Cyber Policy) provides a useful comparison for understanding the path forward for consolidating leadership for all OIE, leadership for the information domain will need to go one step higher at the undersecretariat level. To be clear, the DASW(SIIP) is not an equivalent to the ASW (Cyber Policy). A USW(I) would consolidate these related efforts and raise the bar for leadership in the information domain, ensuring that all OIE are prioritized at the highest levels of the DoW.

A Blueprint for the Way Forward: Steps to Create the USW for Information

There is already a standing statutory responsibility for a principal IO advisor (PIOA).[23] Within 10 U.S.C. § 397, the statute directs the SECWAR to designate a PIOA, a responsibility that currently falls as an additional duty to USW(P).[24] The statute requires that the designee be Senate confirmed; and while the secretary can designate any of their Senate-confirmed staff members as the PIOA, they would be designating someone that already has a full docket of responsibilities largely not associated with OIE, as in the current case of the USW(P). Arguably, the SECWAR would be better served if the PIOA were a Senate-confirmed member of their staff whose responsibilities already aligned with PIOA's statutory responsibilities, plus those currently falling to the USW(I&S), ATSW(PA), DoW CIO, and the ASW (Cyber Policy). Creating a new USW position could better align with the statute.

The consolidation of efforts and creation of a USW(I) could also act as an advocate for maintaining and growing information related capabilities, ensuring the DoW has the tools it needs to succeed in the information battlespace. Given the strategic importance of information capabilities and information forces, and the paradox of planned cuts to these forces, it is clear a higher level of oversight and coordination is required

within the department. Of note, there is a multistep process that requires both internal coordination and congressional approval. Here are the essential steps involved:

1. **Internal advocacy.** Key DoW stakeholders, including the SECWAR and the chairman of the Joint Chiefs of Staff, would need to agree on the necessity of the new office. Additionally, the USW(P), USW(I&S), ASD (Cyber Policy), DoW CIO, and the ATSW(PA) would need to be involved. Given the growing prominence of information warfare, this advocacy could likely be supported by existing reports on information capabilities and gaps.
2. **Congressional authorization.** Once internal support is garnered, the next step would involve seeking congressional approval and codification in law. To be clear, this would be a multiyear effort as the creation of a new under secretary is a significant move, requiring legislative action. This would likely be part of the National Defense Authorization Act and could involve testimony from both senior military and civilian officials on the need for a dedicated USW to oversee information.
3. **Resourcing and staffing.** After congressional approval, the next challenge would involve identifying resources and personnel for the new office from all the aforementioned offices and directorates. Given the multidisciplinary nature of influence operations, staffing would likely require a mix of traditional military personnel with expertise in OIE disciplines and familiar with the information forces as well as civilian experts in communications, psychology, and behavioral science. This would involve both new personnel and current people that might shift from existing offices, which would both need to be identified. The USW(I) would also need to work closely with the intelligence community, which plays a critical role in OIE, but would still need to work by, with, and through the USW(I&S).
4. **Integration with other offices.** The USW(I), as the current leader responsible for the duties of the PIOA, would need to coordinate closely with other USWs, ASWs, and other direct reports and special staff given the overlap among cyber, PA, and other information capabilities and forces. While the various fields are distinct, OIE increasingly relies on cyber platforms for dissemination and also leverages some space technologies, making close coordination across multiple elements and echelons essential.

The Role of the USW for Information

Once established, the USW(I) would be responsible for several key functions, the first being providing strategic leadership and integration. The USW would provide leadership for all DoW OIE, ensuring efforts are aligned with broader national security objectives. The office would serve as the central hub for influence, ensuring that OIE supporting campaigns are coordinated and mutually reinforcing. This leadership role would be essential for resourcing and advocacy as well. The USW would be the primary advocate for information and perception operations, ensuring that these critical functions are properly resourced and integrated into future defense budgets. This would include advocating for the retention and expansion of information forces, as well as funding for advanced tools and techniques to enhance OIE.

The USW(I) would also play the lead role in overseeing policy creation and implementation for countering misinformation and disinformation. Countering defense-related foreign adversary misinformation and disinformation and working closely with other government agencies and international partners are arguably the widest gaps we have in the joint forces' ability to compete globally. Alignment of guidance and resourcing across the range of information forces, including cyber, electronic warfare, messaging, PA, etc., would enhance the impact of both proactive campaigns to promote accurate information, reactive efforts to debunk false narratives, and offensive activities to degrade malign actors.

Transformation for the global information fight requires innovation, technology, training, and doctrine. The USW(I) would oversee innovation in influence operations, ensuring that the US military remains at the cutting edge of OIE. This should include the current work done by the DoW CIO (regarding integration of super intelligence, machine learning, and big data analytics) into information capabilities, as well as the development of new psychological techniques to enhance the effectiveness of influence. Be it

cyber-related or otherwise, "advanced technology, along with America's ability to operationalize it into transformational capabilities, [will continue to give the United States] a military advantage."[25] A USW(I) would also be responsible for ensuring that OIE is integrated into military training and doctrine. This would involve updating training programs for information forces, as well as educating the broader force on the importance of OIE.

Why It Should Not Be Done: The Arguments Against Creating a New USW

The first argument against creating a USW(I) is that it adds a new bureaucratic office to an already complex and slow-moving defense apparatus. Critics also might contend that the issue is not a lack of leadership but rather poor coordination and underutilization of existing structures. Critics would further argue that instead of creating a new office, the DoW could focus on streamlining current efforts, improving interagency cooperation, and integrating OIE more effectively into existing policy and command structures. Lastly, adding another senior departmental position when the current administration is trying to create efficiencies could be seen as out of alignment.

While concerns about adding to the bureaucracy may be valid, the fragmented and inconsistent handling of information capabilities across existing structures is precisely why a centralized, senior-level position is needed. Current offices like the Operational Support Activity (which falls within USW[I&S]) and the former Office of Information Operations Policy—newly renamed SIIP (which has the aforementioned new DASW position and falls within USW[P] but under ASW for Special Operations/Low-Intensity Conflict)—are valuable, but they both lack a unity of effort to adequately advocate for information forces and OIE across DoW. As previously mentioned, cyber and space have its own ASW, the DoW CIO has its own interagency role, and PA is housed in a special directorate as an ATSW. Whereas PSYOP specifically has a direct budget to secure necessary resources, perception management and other information capabilities do not. It could not get more confusing regarding who's who in the zoo and who is responsible for leading what part of information activities.

A USW(I) could provide cohesive leadership and ensure that these efforts are not just coordinated but also elevated to the OSW level, where decisions about resources, policy, and long-term planning are made. This could also decrease the oversight burden for both the USW(P) and USW(I&S), who both have sprawling responsibilities. Arguably, direct oversight would directly contribute to lethality and a streamlining of efforts could lend more advocacy toward and support of the layering of nonlethal effects before, during, and after kinetic/lethal activities. Without a dedicated advocate at the highest levels, OIE will continue to be sidelined in favor of more traditional military priorities, leaving the United States vulnerable in the critical facet of influence.

Another strong case that has been made is for creating a general officer specifically dedicated to the largest force conducting activities across the spectrum of OIE, the PSYOP service members. This officer could serve as the senior advocate for PSYOP, and if elevated, all information forces across the joint force, providing direct oversight and leadership within the existing military structure. A dedicated Army general officer could elevate the profile of information forces, ensuring that they receive adequate attention, funding, and integration into broader military strategies, especially given the rising importance of influence in modern warfare.

However, this argument falls apart given that the Marines already have a three-star position titled the deputy commandant for information who is not charged with involvement in the other forces' information professionals.[26] Creating another general officer billet would not solve the broader issue of fragmented OIE across the DoW and will not lead to policy-based solutions. It also could possibly alienate cyber, electronic attack/warfare, space, and other forces who have a hand in OIE. Furthermore, while any senior officer would champion information forces within the military, they would still lack the policy authority and interagency reach needed to coordinate efforts across the entire defense ecosystem and beyond. PSYOP, IO, cyber, and other related disciplines span multiple branches and agencies, requiring more than just military oversight.

Additionally, there will always be a need for a PA advisor to principals (the secretary, the chairman, commanders, etc.), but to be effective, PA must be properly



Soldiers assigned to the John F. Kennedy Special Warfare Center and School present practical and urgently needed capabilities to fill real-world gaps during PSYOP Innovation Day on 14 November 2025 at Fort Bragg, North Carolina. Innovation Day allowed soldiers an opportunity to showcase solutions designed to fill operational gaps, outpace near-pear adversaries, and increase lethality in competition and conflict. (Photo by Spc. Jade Archuleta, US Army)

rolled in with other information forces. As such, there is "no all-inclusive IO career structure, due largely to a lack of Service consensus on the extent and makeup of core IO skills and force composition" that would allow for a general or flag officer to be neatly placed above.[27] What becomes truly needed is a civilian with the policy and political authority to unify and synchronize these efforts across the DoW and the US government, ensuring that OIE is integrated into national security strategy at the highest level. Limiting this effort to a general or flag officer risks leaving key elements of OIE underrepresented and disconnected from broader policy initiatives.

A last argument that is a previously treaded one, leveled against DoW's previous efforts to establish similarly chartered offices, is the concern amongst the US populace that the department's efforts to influence foreign populations will inevitably impact the US population. The DoW chartered the Office of Strategic Influence just after 9/11.[28] When prominent media organizations reported on the existence and responsibilities of the Office of Strategic Influence, then–Under Secretary of Defense for Policy Doug Feith closed the office and returned the policy sections for information capabilities to their original offices.[29] This response did not result in the DoW ceasing to employ information capabilities but rather to continue to develop policy and strategy in different mission "silos." Undoubtedly, there continues to be real political and civilian sector pushback against the influence actions of the military.

Since then, US information forces have proven that they can exercise techniques to ensure their activities do not impact the US population. This comes even in the absence of a governing body for US strategic information, as highlighted by former Secretary of Defense Robert Gates.[30] The flood of mis- and disinformation, often proven to be driven from malign foreign actors, should have changed the political environment or political will for a more distinct office of responsibility. While Gates and others argued that an oversight champion could reside in the Department of State, the broader point highlighted is the necessity

for centralization within the national security apparatus to coordinate, advocate, and account for US strategic influence.[31]

Conclusion: Preparing for the Next Battlefield

Nonkinetic effects—ranging from cyber operations and information warfare to electronic attack and cognitive warfare—are now central to shaping the modern battlefield. The creation of an USW(I) is not just a bureaucratic reshuffling; it's a recognition of the changing nature of warfare. This is also not an indictment of any current or past serving under secretaries—this is about the DoW's future.[32] What is most certain is the fact that as the world has become more interconnected, the battles of tomorrow will increasingly be fought not just with bombs and bullets but with ideas, narratives, and perceptions. Any user of modern information technologies is a potential target, whether they are on the battlefield or not.[33] If the United States is to maintain its strategic edge, it must prioritize influence operations as a core element of its defense strategy.

The most senior military leaders have stated that "geostrategic competition and rapidly advancing technology are driving fundamental changes to the character of war" and that "it's not only how we take a look at what we have to do today, but what we need to be able to do in the future."[34] The current chairman of the Joint Chiefs of Staff, Gen. J. Daniel Caine, has taken up this mantle, believing that the United States faces "multiple simultaneous challenges" in an "increasingly dangerous security environment."[35] The path forward is never clear, especially in the information environment. However, just as the establishment of the ASW (Cyber Policy) and DoW CIO elevated the importance of cyberspace within the DoW, a USW(I) would do the same for all competition- and conflict-based OIE. Consolidating PA, PSYOP, cyber, and deception into this new office would ensure that the joint force and its information forces writ large are equipped to do more than just participate in the information environment but to move further toward countering adversary influence, influencing adversary perceptions, and ultimately win the war on the most difficult of battlefields—the mind. ■

Notes

Epigraph. J. Daniel Caine, chairman's memorandum, "Guidance to the Joint Staff #2," Office of the Chairman of the Chiefs of Staff, 18 December 2025.

1. Chaveso Cook and Liam Collins, "PSYOP, Cyber, and Infowar: Combating the New Age IED," Modern Warfare Institute at West Point, 6 April 2021, https://mwi.westpoint.edu/psyop-cyber-and-infowar-combating-the-new-age-ied/.

2. Joint Publication (JP) 1, *Joint Warfighting*, vol. 1 (Joint Staff, 27 August 2023), III-25, https://jdeis.js.mil/jdeis/index.jsp?pindex=27&pubId=951.

3. Mark Pomerleau, "SOCOM Leader Warns of Information Operations 'Void,'" Defense Scoop, 9 April 2025, https://defensescoop.com/2025/04/09/socom-leader-warns-of-information-operations-void-gen-bryan-fenton/.

4. Brent Lawniczak, "Being Believed: Persuasion and the Narrative in Military Operations," *Joint Force Quarterly*, no. 116 (1st Quarter, 2025): 44–50, https://ndupress.ndu.edu/Media/News/News-Article-View/Article/4288418/being-believed-persuasion-and-the-narrative-in-military-operations/.

5. Nicholas Slayton, "The Army's Latest PSYOP Recruiting Ad Reminds You: 'We Are Everywhere,'" Task and Purpose, 30 November 2025, https://taskandpurpose.com/news/army-new-psyop-recruiting-ad/.

6. John Patch, "FORTUITOUS ENDEAVOR: Intelligence and Deception in Operation TORCH," *Naval War College Review* 61, no. 4 (2008): Article 9, https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?params=/context/nwc-review/article/1982/&path_info=Fortuitous_Endeavor__Intelligence_and_Deception_in_Operation_Torch.pdf.

7. Chaveso Cook, "PSYOP, CYBER, and Internet Influence: Firing Digital Bullets," *Journal of Information Warfare* 21, no. 2 (2022): 95–104, https://www.jinfowar.com/journal/volume-21-issue-2/psyop-cyber-internet-influence-firing-digital-bullets.

8. Cook and Collins, "PSYOP, Cyber, and Infowar."

9. JP 3-04, *Information in Joint Operations* (Joint Staff, 14 September 2022), viii, https://www.scribd.com/document/660170977/JP-3-04-Information-in-Joint-Operations.

10. JP 3-04, *Information in Joint Operations*, viii.

11. JP 3-04, *Information in Joint Operations*, ix.

12. JP 3-04, *Information in Joint Operations*, x

13. Internal Office of the Secretary of War memorandum, available upon official request.

14. *Department of the Navy Fiscal Year 2022 Budget Request, H.A.S.C. No. 117-44: Hearing on National Defense Authorization Act for Fiscal Year 2022 and Oversight of Previously Authorized Programs Before the House Committee on Armed Services*, 117th Cong., 1st sess. (15 June 2021), 3, 32, https://www.govinfo.gov/content/pkg/CHRG-117hhrg47741/pdf/CHRG-117hhrg47741.pdf.

15. H.A.S.C. No. 177-44, hearing.

16. JP 3-04, *Joint Targeting* (Joint Staff, 28 September 2024), C-10, https://jdeis.js.mil/jdeis/new_pubs/jp3_60.pdf.

17. Christopher Paul and Miriam Matthews, "The Russian 'Firehose of Falsehood' Propaganda Model," RAND, 11 July 2016, https://www.rand.org/pubs/perspectives/PE198.html; Chaveso Cook, "Kursk Incursion Supplies Lessons for Young Leaders," *Army Magazine*, 1 November 2024, https://www.ausa.org/articles/kursk-incursion-supplies-lessons-young-leaders.

18. Duan Xiaolin and Liu Yitong, "The Rise and Fall of China's Wolf Warrior Diplomacy," *The Diplomat*, 22 September 2023, https://thediplomat.com/2023/09/the-rise-and-fall-of-chinas-wolf-warrior-diplomacy/.

19. James Mattis, *Summary of the 2018 National Defense Strategy* (Department of Defense, 1 January 2018), 7, https://media.defense.gov/2020/May/18/2002302061/-1/-1/1/2018-NATIONAL-DEFENSE-STRATEGY-SUMMARY.PDF.

20. Michael Cheatham et al., "Cognitive Warfare the Fight for Gray Matter in the Digital Gray Zone," *Joint Force Quarterly*, no. 114 (3rd Quarter, 2024): 83–91, https://ndupress.ndu.edu/Media/News/News-Article-View/Article/3853187/cognitive-warfare-the-fight-for-gray-matter-in-the-digital-gray-zone/.

21. Chaveso Cook, "Continuing Education: The Brains Behind the Brawn of the Operator," *IO Sphere* (Winter 2014): 22–25.

22. Department of War, "Establishment of the Office of the Assistant Secretary of Defense for Cyber Policy," news release, 29 March 2024, https://www.war.gov/News/Releases/Release/Article/3724742/establishment-of-the-office-of-the-assistant-secretary-of-defense-for-cyber-pol/.

23. Principal Information Operations Advisor, 10 U.S.C. § 397 (2021), https://uscode.house.gov/view.xhtml?req=granuleid:USC-prelim-title10-section397&num=0&edition=prelim.

24. 10 U.S.C. § 397.

25. James Kadtke and John Wharton, "Technology and National Security: The United States at a Critical Crossroads," *Defense Horizons* no. 84 (March 2018), https://ndupress.ndu.edu/Portals/68/Documents/defensehorizon/DH-84.pdf.

26. "Deputy Commandant for Information," Headquarters, US Marine Corps, accessed 26 August 2026, https://www.information.marines.mil/.

27. Wesley Andrues, "What U.S. Cyber Command Must Do," *Joint Force Quarterly*, no. 59 (4th Quarter, 2010): 115–20, https://ndupress.ndu.edu/Portals/68/Documents/jfq/jfq-59/jfq-59_115-120_Andrues.pdf.

28. "New Pentagon Office to Spearhead Information War," CNN, 20 February 2002, https://www.cnn.com/2002/US/02/19/gen.strategic.influence/.

29. Greg Jaffe, "Pentagon Bows to Critics and Closes Its New Office of Strategic Influence," *Wall Street Journal*, 27 February 2002, https://www.wsj.com/articles/SB1014751515512615280.

30. Robert Gates, "The U.S. Needs to Relearn How to Tell Its Story to the World," *Washington Post*, 16 April 2023, https://www.washingtonpost.com/opinions/2023/04/15/robert-gates-us-strategic-communications-russia-china/.

31. Gates, "The U.S. Needs to Relearn How to Tell Its Story to the World."

32. Of note, this article began under one administration and was finished under another, spanning two different Under Secretaries of War for Policy and for Intelligence and Security, two different sets of strategic documents and their associative priorities, and a whole host of differences in the national security and global threat environments.

33. Cheatham et al., "Cognitive Warfare the Fight for Gray Matter in the Digital Gray Zone."

34. Mark Milley, "Strategic Inflection Point: The Most Historically Significant and Fundamental Change in the Character of War Is Happening Now—While the Future Is Clouded in Mist and Uncertainty," *Joint Force Quarterly*, no. 110 (3rd Quarter, 2023), https://ndupress.ndu.edu/Joint-Force-Quarterly/Joint-Force-Quarterly-110/Article/Article/3447159/strategic-inflection-point-the-most-historically-significant-and-fundamental-ch/; Charles Q. Brown Jr., interview by Michael Froman, Council on Foreign Relations David A. Morse Lecture Series, 23 September 2024, https://www.cfr.org/event/conversation-general-cq-brown-jr.

35. "Caine: U.S. Faces 'Multiple, Simultaneous' Challenges," Association of the United States Army, 15 September 2025, https://www.ausa.org/news/caine-us-faces-multiple-simultaneous-challenges.

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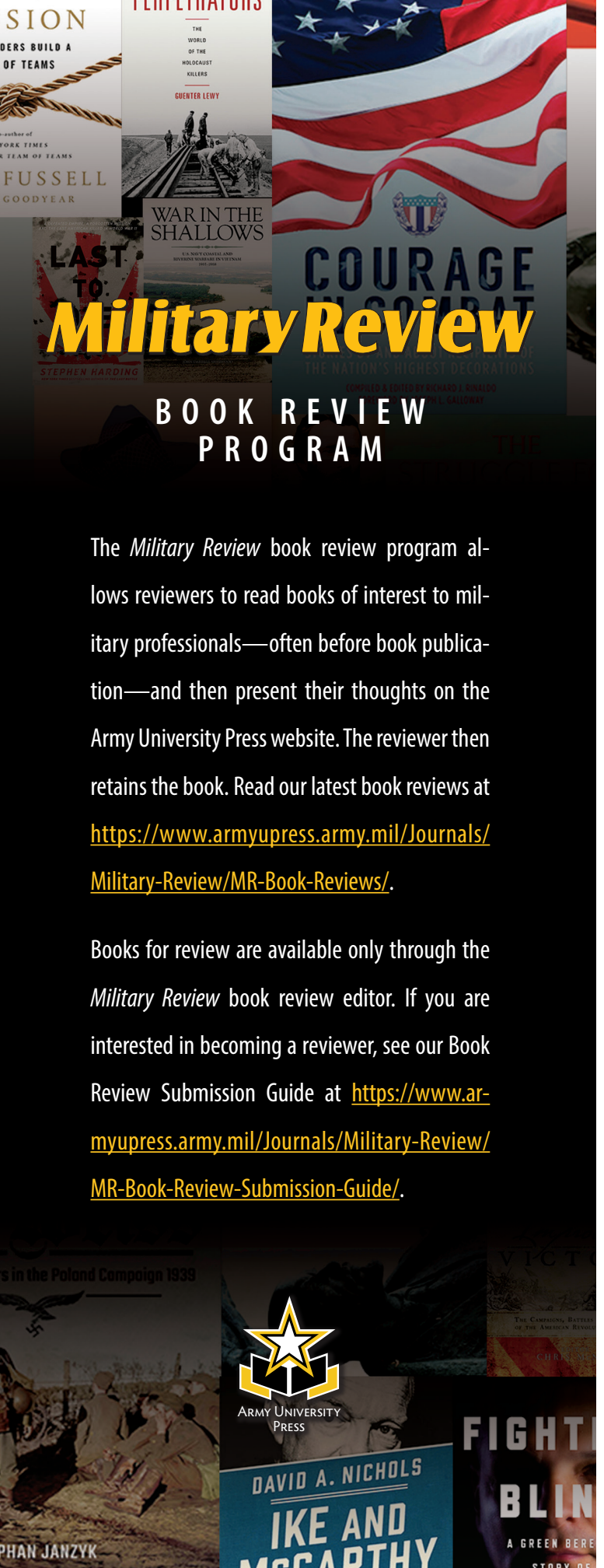

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Soldiers assigned to US Army Europe and Africa carry a litter during unit recovery team training on 3 June 2026 at Panzer Kaserne, Kaiserslautern, Germany. This readiness is critical for both peacetime and contingency operations, where timely and professional recovery of remains is essential. (Photo by Pfc. Kadence Connors, US Army)

A Sacred Obligation

Preparing the Army to Recover the Fallen in Large-Scale Combat Operations

Chaplain (Maj.) Christopher Kitchens, US Army
Maj. Justin Griffith, US Army

All who lie here died that future generations might live in peace.

—Angelika Lantz

The ultimate sacrifice made by those who serve must remain a sacred priority for our Nation and its defenders. However, as we prepare for the next large-scale combat operations (LSCO) environment, we must confront a harsh reality: the number of human remains requiring evacuation and dignified care will be unprecedented compared to the last fifty years. This will challenge our capacity to evacuate remains in ways unseen for generations.

For decades, America has grown accustomed to the swift and seamless return of their fallen heroes, a testament to the dedication and professionalism of the Armed Forces. However, this perception belies the stark logistical and operational challenges involved. In LSCO, or the aftermath of a chemical, biological, radiological, or nuclear event, the scale and complexity of human remains collection, identification, and repatriation will require a profound shift in understanding and preparation. Our mindset must shift from this as the casualties of twenty years of conflict could occur in days during LSCO.

Families will rightfully demand the return of their fathers, mothers, sons, and daughters to receive the honor and closure they deserve. However, this process will be neither instantaneous nor simple. Over the past two decades, the Department of War's mortuary affairs (MA) capabilities have been significantly diminished, leaving us underprepared for the demands of a high-casualty scenario. Without deliberate action, we risk failing to uphold the solemn promise made to our fallen service members and their families.

The Army must urgently institutionalize unit recovery team (URT) training at the combat training centers (CTC)—supported by doctrinal, organizational, and materiel changes—to prepare for the realities of LSCO and uphold our sacred obligation to the fallen. This is more than a logistical challenge; it is a moral imperative. We must ensure that every fallen hero is treated with the utmost dignity and respect, reinforcing the bond between the Armed Forces and the Nation they defend.

The Challenge of Human-Remains Recovery in LSCO

The loss of human life on a massive scale has never been, nor will it ever be, culturally acceptable. There is a discomfort that accompanies mass fatalities. This is due, in part, to the perceived "historical neglect" concerning mass fatalities where the remains of individuals who perished in large-scale combat were not promptly or properly recovered. In World War I, out of 81,462 US military deaths, 1,227 remains were neither recovered nor identified, and 1,648 were interred as "unknowns."[1] Similarly, in World War II, approximately 79,000 out of 360,844 US military deaths were not recovered or identified, with 8,532 buried as "unknowns."[2]

If LSCO were to occur with a peer adversary, it is estimated to have a mortality rate of 2.6 percent per formation daily; this equates to roughly 120 people per brigade, similar to the numbers experienced in World War II. The template also aligns with current casualty estimates from the CTCs, where the average number of killed in action (KIA) resulting from a ten-day operation is around 1,250 per brigade or roughly 125 soldiers per day.[3] Compounding this problem is the fact that throughout the Global War on Terrorism, air superiority and the relatively low number of casualties on any given mission allowed the US military to remove human remains with relative ease. In LSCO, the United States has no guarantee of air superiority or secure ground lines of communications, and the sheer number of KIA (not counting the wounded) would require that nearly all air transport assets fly only recovery missions. Maintaining this approach is neither tenable nor sustainable, posing a tremendous risk to successfully executing broader operations. Collectively, these factors have diminished commanders' sense of urgency to plan for large-scale human-remains recovery.

The Case for Unit Recovery Teams

The concept of unit-level recovery of the fallen is not new. In fact, the need for immediate, decentralized response to battlefield fatalities has been a recurring feature of American warfare for over a century. While early conflicts relied on informal or ad hoc recovery teams, today's doctrine codifies this requirement. Army Techniques Publication (ATP) 4-46, *Multi-Service Tactics, Techniques, and Procedures for Mortuary Affairs in Theaters of Operations*, formally identifies and defines



Master Sgt. Jerome Gisclair, a senior fatality management NCO assigned to US Army Europe and Africa, demonstrates how to load casualties during unit recovery team training on 3 June 2026 at Panzer Kaserne, Kaiserslautern, Germany. Training with other commands is important in joint or multinational operations, where seamless coordination is required. (Photo by Pfc. Kadence Connors, US Army)

URTs as designated non-MA personnel who conduct immediate recovery of human remains in combat. These teams are appointed on written orders, trained semiannually, and required to maintain the tools and procedures necessary for remaining recovery with dignity and accuracy.[4]

Examining past conflicts makes it clear that URTs are not a doctrinal novelty but rather a formalization of a long-standing operational necessity. In LSCO, where centralized systems will likely be overwhelmed, URTs become the first echelon of response.

During World War I, centralized mortuary capabilities were virtually nonexistent. Unit-level burial details, often untrained and hastily assembled, were the only means of interring the dead.[5] High casualty rates and stagnant trench warfare led to thousands of remains being unrecovered or buried in unmarked graves. The aftermath gave rise to the Tomb of the Unknown Soldier, a national symbol of unresolved loss and the institutional consequences of inadequate recovery planning.[6]

The Graves Registration Service was formally established during World War I in August 1917 under the leadership of Chaplain (Col.) Charles C. Pierce. These early efforts laid the foundation for MA operations in all subsequent US wars.[7] However, the reality on the ground often required tactical-level recovery under fire. During World War II's island-hopping campaign in the Pacific and battles like Normandy and the Battle of the Bulge in Europe, operational tempo and combat conditions forced units to temporarily inter remains or recover them during lulls in fighting. After the war, the Graves Registration Service spent years locating, disinterring, identifying, and repatriating American dead. This extensive postwar mission demonstrated the importance of better unit-level preparation during combat operations.[8]

In Korea, the speed of maneuver and fluid front lines created conditions where remains were frequently left behind or hastily buried, especially during retreats. Over 7,500 American personnel remain unaccounted for to this day.[9]

The ongoing war in Ukraine reinforces the timeless necessity of unit-level recovery teams. Ukrainian battalions have implemented their version of URTs

to recover and identify those who have fallen under combat conditions. In contrast, the Russian military has faced criticism for leaving its dead behind, creating strategic liabilities in the information space and undermining morale. These real-time examples underscore that even in modern warfare, without trained and resourced URTs, personnel recovery efforts are burdened by chaos, delay, and potential dishonor.[10]

ATP 4-46 codifies using URTs as a core component of tactical recovery operations. These teams are required to

- be appointed by commanders via written orders;
- train semiannually in remains handling, site security, documentation, personal protective equipment usage, and chain-of-custody procedures; and
- serve as the immediate recovery echelon when MA personnel are unavailable, especially during intense combat phases of LSCO.[11]

This doctrinal grounding makes clear that the URT is not merely a helpful idea; it is a current Army requirement. However, without sufficient training emphasis, enforcement, and CTC integration, this requirement risks being ignored or inadequately executed.

History shows that unit-level recovery has always been the Army's default response to mass fatalities. What was once an informal necessity is now a formal doctrine. The challenge is ensuring it is resourced, trained, and validated in the environments that simulate future warfare, namely, the CTCs. Implementing URT training in garrison and the field is not simply a doctrinal correction but a moral and strategic necessity.

Defining the Capability Gap

Doctrinally, commanders are responsible for human-remains recovery, yet most do not train for it. Home-station URT training is often nonexistent, which reflects a systemic lack of prioritization by commanders. A key challenge, therefore, is getting leaders to understand that human-remains recovery in LSCO is not a niche task but a critical combat requirement. For nearly two decades of overseas contingency operations, commanders operated in environments where KIAs were relatively rare, and established evacuation infrastructure handled remains with minimal unit-level coordination. This conditioned a generation of leaders to view human remains collection as someone else's responsibility, creating an "out of sight, out of mind" culture that divorced URT training from the training calendar. However, LSCO presents a different reality: high casualty rates, degraded infrastructure, and contested environments where recovery becomes a unit-level imperative. Failing to prepare for this is tantamount to leaving a fallen comrade unattended on the battlefield, with no clear plan for their return. ATP 4-46 explicitly states, "Commanders should integrate unit recovery team training into the training schedule semi-annually, for all contingency operations, and during deployments."[12] As such, commanders must not only recognize the requirement, but they must also drive it.

Organizationally, the Army lacks sufficient manpower due to an inadequate number of authorized 92M (mortuary affairs) positions in the Total Army manning structure. Active and Reserve Components have a total of seven companies that are geographically dispersed across the United States and its territories. However, these units continually support missions inside and outside the continental United States, making the available pool of qualified MA personnel even smaller. The 54th Quartermaster Company is the Army's only active-duty MA company, a capability that would be overwhelmed within the first twenty-four hours of LSCO. Doctrinally, this capability is positioned at the corps support area, creating a significant gap in remains recovery and processing at the division support area and forward. While an MA section consisting of one officer and one NCO is task organized under the division sustainment brigade, these roles are often misused. Officers are frequently assigned as placeholders until reassigned, and NCOs are diverted to unrelated duties outside their military occupational specialty (MOS). Therefore, if left unaddressed, this shortfall in personnel and misallocation of expertise will critically impair the Army's ability to recover, process, and honor the fallen during LSCO.[13]

The current materiel solutions for MA consist of two systems: the Mobile Integrated Remains Collection System (MIRCS) and Multi-Temperature Refrigerated Container System (MTRCS). The MIRCS, a portable containerized system, is primarily utilized for initial storage and the processing of remains. The MTRCS provides additional cold storage capacity to augment the MIRCS. However, the MTRCS is an aging solution developed over twenty years ago for counterinsurgency operations. With

repair part contracts expired, units now face persistent challenges in maintaining its operational readiness.[14]

Proposed Solutions

Home-station training. Key to the establishment of unit recovery teams is quality garrison training. The sustainment brigade should manage this recurring annual training as part of the Army's 350-1 training requirements. Therefore, home-station training for non-MA unit recovery teams should include doctrinal education and practical, scenario-driven exercises. Content could feature a doctrinal overview of hands-on body recovery drill, transportation coordination, and role-player integration to normalize the recovery and repatriation of human remains as a core readiness task. Minimum requirements for this training should include semiannual search and recovery operations instruction, safeguarding and accountability of personal effects, equipment and form familiarization, occupational health training on bloodborne pathogens and personal protective equipment, and instruction on preservation and temporary storage of remains.[15] Additionally, training should be conducted under the supervision of qualified MA personnel from the Army or relevant sister services if located in a joint environment. These minimum standards represent only a portion of what comprehensive URT training should encompass, highlighting the need for commanders to expand and tailor training to LSCO conditions and unit-specific mission profiles.

Second, Army units must begin forcing planning and staff integration during home-station training exercises to replicate the wartime requirement for staff coordination and deliberate planning of human-remains recovery. Specific focus should be on administrative/logistics operations centers to deliberately task units, forecast requirements, and track remains status. As S-1 sections coordinate remains movement, update personnel statuses (especially when multiple casualties are involved), and simulate interactions with theater mortuary evacuation points, this will reinforce habitual coordination between sustainment, medical, and personnel sections in LSCO scenarios.

Third, and potentially most crucial, is the gainful employment of the division sustainment brigade's MA NCO and officer. Organic to each sustainment brigade, they will be vital in training and certifying unit recovery teams at echelon. A force design update is being vetted at the Sustainment Center of Excellence and Combined Arms Command to align MA platoons to divisions. If approved, this would provide the capability to not only process the remains but also assist in the collection process.

Another potential option would be to require the creation of URTs as part of the Command Deployment Discipline Program.[16] This would provide the necessary personnel to teach URT requirements and procedures. URTs could be led and taught by the sustainment brigade, officially tasking all MA-qualified NCOs and officers in the formation. For formations without MA personnel (which is the preponderance of the force), this delta can be mitigated by the Sustainment Center of Excellence and the Transformation and Training Command by increasing distance learning opportunities for officers with a 4V (MA officer) additional skill identifier (ASI) and opening this up to non-MA NCOs. This would not only increase the capabilities of our formations but also increase broadening opportunities and promotion points for young NCOs.

Similarly, the development of an MA-specific ASI for NCOs might be worth consideration. This would require a partnership with Combined Arms Support Command or the Center for Initial Military Training to develop a curriculum and standards similar to the 4V ASI, awarding promotion points for completion, and making this training a gateway to future leadership in mortuary or sustainment roles. Hopefully, this would incentivize deep knowledge of MA operations among NCOs and expand institutional expertise outside of the 92M MOS.

Combat training center adjustments. The current CTC construct appropriately prioritizes movement and maneuver, survivability, and lethality against near-peer adversaries in LSCO. However, this emphasis often sidelines less visible but essential sustainment functions that do not directly contribute to the close fight. While Gen. Robert H. Barrow's oft-quoted reminder, "Amateurs talk about tactics, but professionals study logistics," rings true, the institutional culture of our Army remains centered on maneuver.[17] However, the two are not mutually exclusive. We can and must preserve combat effectiveness while reinforcing morale, cohesion, and the dignity of the fallen. CTCs are the ideal laboratory to refine this balance. To do so, however, will require targeted internal reforms.



Soldiers assigned to US Army Europe and Africa carry a simulated casualty during unit recovery team training on 3 June 2026 at Panzer Kaserne, Kaiserslautern, Germany. This training provides practical, scenario-based experience in both classroom and field environments. (Photo by Pfc. Kadence Connors, US Army)

First, every CTC should incorporate a dedicated MA observer controller/trainer (OC/T) to observe, coach, and evaluate units in human-remains recovery tasks. Admittedly, the Army's limited MA capability, anchored by a single active-duty MA company, makes this a challenging proposition under the current force structure. A DOTMLPF-P (doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy) solution will ultimately be required to institutionalize this function. In the short term, however, a feasible workaround is to repurpose, or dual hat, an existing OC/T from one of the sustainment task forces. The OC/T responsible for the brigade support battalion's medical company may be well-suited for this role, given their familiarity with mass casualty scenarios, medical and casualty evacuations, and battlefield triage. With tailored training, this OC/T could evaluate unit recovery efforts, facilitate ethical vignettes during prerotational training or the leader training program, and provide input to hotwashes and after action reviews (AAR), reinforcing the operational relevance of dignified human-remains recovery in LSCO conditions.

Beyond simply filling an observer role, an MA-trained OC/T can significantly enrich the CTC training environment by scripting and evaluating scenario-based injects through the Master Events Management System. These injects can replicate the complex realities of human-remains recovery in LSCO, ranging from downed aircrew to KIAs in dense urban terrain or mass casualty events following chemical or artillery strikes. Each scenario would challenge units to ethically and tactically navigate human-remains recovery under fire, reinforcing doctrinal standards and disciplined execution. In doing so, MA OC/Ts would ensure that human remains collection becomes a tested and validated component of combat training rather than a neglected afterthought.

Logistical planning for human-remains recovery is a critical but often overlooked requirement in LSCO conditions. While the dignified removal of remains from the battlefield is doctrinally sound, execution depends heavily on available transportation assets. These assets will be in high demand across the area of



Soldiers assigned to XVIII Airborne Corps lift a human remains pouch during unit recovery team training on 24 April 2026 at Fort Bragg, North Carolina. The training event gave fatality management specialists and religious affairs specialists hands-on exposure to casualty recovery. (Photo by Sgt. Alison Strout, US Army)

operations. There is a dangerous assumption that secure ground lines of communication will be available to support casualty movement, which is unlikely in a near peer-adversary conflict. Commanders and sustainment planners must train now to reconcile the reality of limited resources with the imperative of human-remains recovery, building redundancy and prioritization into their sustainment planning cycles.

Doing so requires scenario designers and OC/Ts to simulate the constraints that units will face in LSCO. This begins by restricting transportation assets within the scenario to create authentic friction, forcing commanders and sustainers to prioritize competing requirements for movement, including resupply, casualty evacuation, and human-remains recovery. Adding injects involving KIAs in remote or contested areas can challenge units to adapt using alternate routes, dismounted recovery, or even temporary interment. These events should be incorporated into sustainment war-gaming during the military decision-making process, prompting staff to consider human-remains recovery within the synchronization matrix, decision support tools, and logistics overlays. The losing unit's S-4 and support operations must coordinate transportation movements that account for human remains and other critical cargo requirements. Simulated remains should be physically represented on convoy manifests and with litter teams to build doctrinal muscle memory. Throughout the rotation, OC/Ts should assess how units respond to recovery delays and whether commanders adjust plans to uphold the dignity of the fallen. These decisions offer powerful AAR moments that reinforce not only logistical discipline but also the ethical and strategic consequences of being unprepared for the human cost of LSCO.

In worst-case scenarios where evacuation of remains is impossible due to enemy activity, terrain, or asset shortfalls, units may be forced to temporarily inter human remains on the battlefield. Integrating engineer assets to dig hasty interment sites during training would allow URTs to rehearse this contingency in a realistic and professionally guided setting while reinforcing the importance of dignity and adherence to established procedures. However, this type of training

is only possible if brigade commanders are willing to prioritize it, allocating engineer time and resources to support a training objective often overshadowed by mobility or survivability missions. Still, this integration would demonstrate tactical adaptability and reinforce a commitment to honoring the fallen in all conditions.

A recent milestone in the evolution of CTC training occurred during Joint Readiness Training Center Rotation 25-05, where a full mortuary affairs temporary interment site was successfully planned, coordinated, and executed. This exercise demonstrated that even without a formally assigned a 92M specialist, units can still meet doctrinal expectations for the recovery of human remains through deliberate staff planning and crossfunctional coordination. One of the most notable aspects of the operation was the partnership between the engineer detachment and the unit ministry teams (UMT). Engineer assets excavated one hundred regulation-compliant burial plots, measuring one hundred feet by seventy feet, over thirteen hours under night vision goggles, simulating LSCO conditions. This partnership enabled the brigade and brigade support battalion UMTs to conduct a dignified transfer ceremony and facilitate religious rites for the interred, which were led by both Jewish and Christian chaplains in a pluralistic service. Following the interment, behavioral health personnel conducted a traumatic event management session to support participating soldiers. The sequence modeled how command leadership, engineering, religious support, and behavioral health can converge under combat conditions to maintain soldier readiness while preserving dignity for the fallen.

This combination of an MA OC/T and a UMT OC/T offers a powerful approach to coaching human-remains recovery as both a logistical and moral mission. These OC/Ts can plan and evaluate Master Events Management System injects that compel units to confront the full spectrum of considerations: doctrinal correctness, operational feasibility, ethical dilemmas, and spiritual care. This integrated coaching team brings balance, ensuring that dignity for the fallen is not sacrificed to the demands of operational tempo. By fostering this multidimensional approach, units build cohesion, reinforce values, and develop readiness for the harsh realities of LSCO.

In order to effectively integrate human-remains recovery into the CTC training environment, it is essential that task force OC/Ts are trained to observe, assess, and coach URT actions with confidence and doctrinal accuracy. Currently, most OC/Ts lack formal instruction on MA procedures, doctrinal expectations for remains handling, or how to incorporate these tasks into green book AARs or hotwashes. As such, incorporating a dedicated block of instruction within the OC/T Academy would be a critical first step toward institutionalizing this requirement. This training should include doctrinal review (e.g., ATP 4-46 and Field Manual 4-0, *Sustainment Operations*) and practical evaluation tools. The block should also include a discussion on ethical decision points and common friction points. Equipping OC/Ts with the language, metrics, and mindset to coach URTs will normalize human-remains recovery as a combat training objective and help reframe it as a leadership responsibility rather than a superstitious fear that should be avoided. Over time, this investment in OC/T education will shape the training culture across the CTCs and elevate the professional handling of remains as a core competency in LSCO.

Force modernization. The Army has lost proficiency in MA operations due to decades focused on counterinsurgency. As we prepare for LSCO, we must urgently rebuild this capability. Fiscal constraints demand creative, low-cost solutions that enhance capability (ways) and capacity (means). Rather than waiting for costly materiel solutions, we should prioritize doctrinal, organizational, and training reforms using the DOTMLPF-P framework.[18]

Doctrine. Updates to doctrine are urgently needed to incorporate emerging concepts and operational realities. As modern conflict's scale and complexity evolve, so must our policies adapt to reflect logistical constraints and ethical imperatives. Current regulations, while well-intentioned, often fail to account for high-casualty environments where time, space, and transport capacity are severely limited. In such scenarios, strict adherence to traditional standards, such as the prohibition on stacking remains, may not be practical or achievable without compromising broader mission objectives. A more nuanced framework that preserves dignity and accountability while allowing for operational flexibility is a must. Incorporating these realities into doctrine will better prepare units for the difficult decisions they may face in mass-fatality situations.

Organization. Meeting projected MA demands will require adding twenty-five personnel per detachment, or approximately 275 across Compo 1 (active duty). This increase may necessitate deactivating two or three reserve companies and reallocating personnel to support the expanded requirements in the Active Component. Such changes could affect training pipelines, readiness cycles, and geographic distribution, therefore requiring coordinated planning across the force management functional area.[19]

Training. Concurrent return of remains in LSCO must be embedded in institutional, operational, and leader development training. Contested terrain, degraded communications, and mass casualties require leaders who can make ethical, logistical decisions under pressure. Training should build shared understanding and reinforce MA planning at all levels.

Materiel. One of the most viable materiel solutions is the integration of forty-eight- to fifty-three-foot refrigerated trailers (reefers) capable of preserving up to 144 remains per unit. These trailers offer both capacity and environmental control suitable for austere or forward-deployed environments. Compared to the aging and unreliable MTRCS, reefers offer a more immediate, scalable solution that aligns with emerging doctrine. Their deployment at key support nodes would provide continuity of care and help ensure respectful handling of the fallen during sustained operations.

Leadership. There is a critical need to elevate the role of MA in operational planning and leader development. In LSCO environments, the responsibility to recover and care for the dead will be more complex and more frequent. Sustainment leaders must engage in regular MA planning, ensure it is incorporated into operational timelines and war games, and promote a culture that honors this sacred task not just in words but in action.

Personnel. Targeted recruiting and thoughtful personnel management will be essential to fill the projected shortfall of 275 MA positions. Without deliberate planning, this reallocation could create gaps in other MOSs. Options such as consolidating overlapping specialties or restructuring redundant battalions could help meet demand without degrading readiness. These efforts must align with broader talent management and modernization strategies to ensure sustainable growth.

Facilities. No major new facility requirements are anticipated. Existing infrastructure can support operations with minimal retrofits, handled by unit-level maintenance and installation sustainment personnel. This significantly reduces implementation time and cost, enabling a smoother integration of new capabilities into existing workflows.

Policy. Commanders at the division level should be authorized to approve temporary interment of remains when immediate evacuation is not feasible due to terrain, enemy activity, or limited transport capacity. This flexibility would allow units to maintain momentum while still adhering to ethical standards. Temporary interment, properly documented and conducted with dignity, has historical precedent, such as during the Korean War, and reflects the harsh realities of LSCO.

Conclusion

The Army faces a critical moment that demands deliberate choices and focused preparation. LSCO will bring unprecedented casualty rates, and history reminds us of the cost of inadequate recovery and training. Current shortfalls in URT readiness cannot be ignored. While doctrine provides the foundation, true readiness requires integration into training and practice at our CTCs. Institutionalizing URT training is not only a logistical necessity but a profound moral obligation to our fallen and their families. Failure to act risks both the dignity of recovery and the morale and effectiveness of the force in future conflict. ■

Notes

Epigraph. Angelika Lantz, "They Have Never Forgotten," *Kaiserslautern American*, 6 August 2010.

1. Arnd Frie et al., "Fallen Comrades: Mortuary Affairs in the U.S. Army," *Quartermaster Professional Bulletin* (Winter 1998): 32.
2. Frie et al., "Fallen Comrades," 32.
3 Brianna E. Griffin, "Facing Fatality: Mortuary Affairs in LSCO," US Army, 1 February 2024, https://www.army.mil/article/272927/facing_fatality_mortuary_affairs_in_lsco.
4. Army Techniques Publication (ATP) 4-46, *Multi-Service Tactics, Techniques, and Procedures for Mortuary Affairs in Theaters of Operations* (US Government Publishing Office, 2022), 4-13–4-20.

5. Leo P. Hirrel, "The Beginnings of the Quartermaster Graves Registration Service," US Army, 8 July 2014, https://www.army.mil/article/128693/the_beginnings_of_the_quartermaster_graves_registration_service.

6. "The Tomb of the Unknown Soldier," Arlington National Cemetery, accessed 3 August 2026, https://www.arlingtoncemetery.mil/Explore/Monuments-and-Memorials/Tomb-of-the-Unknown-Soldier.

7. Hirrel, "The Beginnings of the Quartermaster Graves Registration Service."

8. Steven Anders, "With All Due Honors: A History of the Quartermaster Graves Registration Mission," *Quartermaster Professional Bulletin* (September 1988).

9. "Our Missing: Korean War Accounting," Defense POW/MIA Accounting Agency, accessed 1 September 2026, https://dpaa-mil.sites.crmforce.mil/dpaaFamWebKorean.

10. Griffin, "Facing Fatality."

11. ATP 4-46, *Multi-Service Tactics, Techniques, and Procedures for Mortuary Affairs*, 4-6, 4-14–4-17.

12. ATP 4-46, *Multi-Service Tactics, Techniques, and Procedures for Mortuary Affairs*, 4-14.

13. Force Development Directorate, *Sustainment Force Structure Book* (US Army Combined Arms Support Command, 2024).

14. Quartermaster Branch, "Mortuary Affairs: How-To Guide" (US Army, 17 October 2024).

15. ATP 4-46, *Multi-Service Tactics, Techniques, and Procedures for Mortuary Affairs*, 4-16.

16. Center for Army Lessons Learned (CALL) Handbook 15-01, *Command Deployment Discipline Program*, ver. 2 (CALL, 3 April 2017), https://api.army.mil/e2/c/downloads/2023/01/19/05bbe198/15-01-command-deployment-discipline-handbook-dec-14-public.pdf.

17. Robert H. Barrow (then–commandant, US Marine Corps), interview with *San Diego Union*, 11 November 1979.

18. School of Strategic Landpower, *How the Army Runs: A Senior Leader Reference Handbook* (US Army War College, 2020).

19. Quartermaster Branch, "Mortuary Affairs."

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In honor of Veterans Day

Gold Stars

When a soldier falls
They fall too who loved him
We who serve in kind
Will see they are never left behind

—SP5 Paul Thomson



Right: The Traveling Vietnam Wall is displayed on MacArthur Field, Joint Base San Antonio, Texas, 12 November 2015. The wall, owned and operated by American Veterans Traveling Tribute, is an 80 percent scale replica of the Vietnam Veterans Memorial in Washington, DC. (Photo by Francis S. Trachta, US Army)



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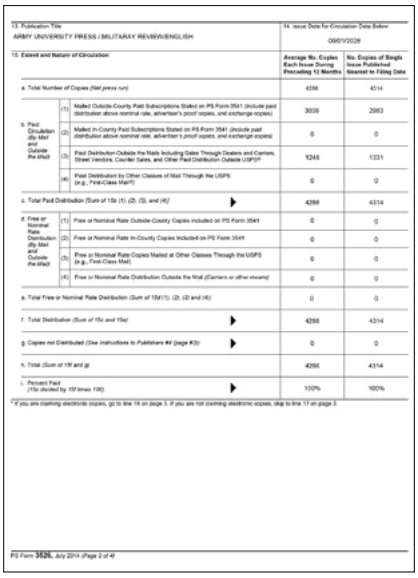

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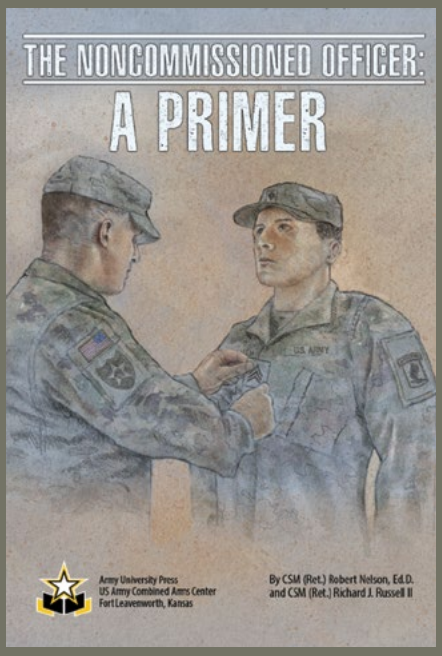
Available Now—*The Noncommissioned Officer: A Primer*

Throughout ***The Noncommissioned Officer: A Primer***, the authors supplement official Army doctrine by blending those principles with historical context, professional insights, and personal anecdotes from experienced senior NCOs. The most effective NCOs are the ones who lead with empathy, communicate clearly, own their mistakes, and dedicate themselves to developing their soldiers while stewarding the values of the Army profession. Designed for junior and senior leaders, this book weaves personal experience against the policies and guidelines that informs daily operations and mission readiness. In doing so, readers see how strong NCOs are reared in practice. It is a choice. It is deliberate. And it is not without experiencing setbacks that allow for development and growth.



From the introduction

"In 1999, I was a young enlisted soldier and a combat medic stationed with the 296th FSB, 3 BDE, 2 ID, at (then) Fort Lewis, Washington. Staff Sergeant Rob Nelson came into my organization when I was a Private First Class. It was before 9/11. We were serving a peacetime US Army, and SSG Nelson taught me through his actions and words what a good NCO ought to bring to the human dimension of leading soldiers …

"Over twenty years later, far removed from my active-duty days, I had used my educational benefits to earn a PhD in American history…and in 2020, I found my dream job, amplifying and publishing the scholarship of soldiers, for soldiers. As the managing editor for the Research & Books team for Army University Press (AUP) located in Fort Leavenworth, Kansas, my colleagues include *The NCO Journal*. In 2022, the managing editor of *The NCO Journal* briefed a pending publication, a co-authored essay entitled "The Understated Art of Knowing When to ST*U" by Sgt. Maj. Robert Nelson & Retired Command Sgt. Maj. Gabriel Arnold. That headline was something that could only have come from my former platoon sergeant. …

"The US Army is a small world and the longer you continue to serve in it or adjacent to it meaningful connections will inevitably resurface in sometimes delightful and serendipitous ways. I asked him to write a book for the noncommissioned officer, a primer, that uses effective narration and storytelling informed by professional experience. I asked him to lift the veil and demystify the contributions NCOs make to mission command and military successes."

—Kate Dahlstrand, PhD

To read ***The Noncommissioned Officer: A Primer***, scan the QR code or visit https://www.armyupress.army.mil/portals/7/research%20and%20books/2026/nco-primer/nco-primer-ua.pdf.



Retired seaman first class Jack Hugman (*center*), a World War II veteran, poses for a photo with Big Red One soldiers during the Master Sgt. Charles Shay Memorial Ceremony in Colleville-sur-Mer, France, 5 June 2026. The ceremony honored Master Sgt. Charles Norman Shay, a 1st Infantry Division combat medic who earned the Silver Star for his actions on Omaha Beach during the D-Day invasion. (Photo by Sgt. Joshua Fish, US Army)

In honor of Veterans Day

Patrol

With each step, the searing powdery sand billows around our boots
like loyal smoke to remind us that we are all burning men.
Marked. If not our bodies, at least our hearts ignite into coarse,
radiating coal.

By the numbers, a human body is 96 degrees. The Afghan day is
105.
40 pounds on my shoulders, 210 rounds strapped to my chafing
armored vest.

This is my first foot patrol. I fumble. I thirst. My water's empty,
but I drink my sweat for guts and go on.
But the infantry does this ev'ry day with much more gear and far
less fear.

Their armor sags from miles of beating feet daily,
but somehow their shoulders ride ready, locked, tall, steeled and solid.
I wonder of each man's story.
Who is he beneath the eroded, earth-toned nylon uniform?

Glabrous Greek statues have had it so wrong.
Warriors are more than lusty flesh,
but sore muscles fused to forged metal weapons with wit
and resolve just as sharp and hard.

Noble Romans are also mistaken.
Immaculate marble does not display days of dust and sweat layered
between pride and anger crusted on sun-beaten skin.

Soon we will return home to families,
but our brothers will remain hidden in concealed memories.
Some will douse their coals in Holy Water, others with whiskey.

Maybe we burn red to hold in spirit a Communion with our ashen
fallen.
Perhaps we will wilt into just a low, assuaged glower,
contented, once we're home.
We'll hunger to feel fire once again.

—Capt. Hugh Pham



Buffalo soldiers of the 25th Infantry, some wearing buffalo robes, posed for a photo in Fort Keogh, Montana, 1890. (Photo from Library of Congress)

Buffalo Soldiers



Example of the Indian Campaign Medal awarded to Buffalo Soldiers for valorous service. (Image courtesy of Ronni Lauritsen)

In 1866, one year after the end of the Civil War, the 39th Congress authorized the formation of several regiments made up of Black enlisted soldiers.[1] These included the 9th and 10th Cavalry Regiments, which became known as the "Buffalo Soldiers," a moniker purportedly originating from the Native American tribes the units fought against.

The units engaged in numerous battles against several Native American tribes, including Apache, Kiowa, Cheyenne, and Commanche and were involved in the capture of Apache chief Geronimo as well as the cross-border pursuit of Mexican Revolutionary Pancho Villa. In 1907, the War Department authorized the Indian Campaign Medal, awarded to those soldiers who participated in those battles from 1865 to 1891.[2]

Though the members of these units endured hardships, including racial discrimination, they had a large list of notable achievements over their ninety-year history. Eighteen Buffalo soldiers earned Medals of Honor while engaged against American Indian combatants between 1870 and 1890.[3] The units were also key participants in the Spanish-American War, including the notable battle of San Juan Hill in Cuba (accompanying the future President Theodore Roosevelt), and campaigns in the Philippines. Buffalo soldiers also participated in both world wars. ■

Notes

1. "9th Cavalry Regiment," 1st Cavalry Division Association, accessed 8 October 2026, https://1cda.org/history/history-9cav/.
2. "General Orders No. 12," War Department, 1 January 1907, https://babel.hathitrust.org/cgi/pt?id=coo.31924098562097&seq=135&q1=G.O.+12.
3. "Buffalo Soldiers: Legend and Legacy," National Museum of African American History and Culture, Smithsonian Institution, accessed 8 October 2026, https://nmaahc.si.edu/explore/stories/buffalo-soldiers.