



Event Summary: **Medical Strategies for Modern Conflict**

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Executive Summary

From April 16–17, 2026, Mayo Clinic Military Medicine (MCMM), the U.S. Irregular Warfare Center (IWC), the National Institute for Defense Health Cooperation (NIDHC), and Destination Medical Center (DMC) co-hosted the Medical Strategies for Modern Conflict Summit in Rochester, Minnesota. The summit convened experts from military medicine, civilian healthcare, government, academia, private industry, and international partners to examine how medicine must adapt to the realities of modern conflict.

Participants examined conflict topics and scenarios characterized by the convergence of conventional and irregular warfare (IW). A consistent conclusion emerged: modern conflict blurs the distinction between the battlefield and civilian society, placing civilian healthcare at risk, including in the U.S. homeland. As a result, neither military nor civilian healthcare systems can

independently meet the scale, complexity, or duration of medical demands imposed by future conflict. Medical resilience is a national security imperative that adversaries are actively targeting and require defending on par with other critical national infrastructure.

The summit drew 70 participants from across the United States and allied nations, including the United Kingdom, Norway, Germany, Finland, and New Zealand. Through interactive breakout sessions, attendees identified systemic gaps, tested assumptions, and developed actionable concepts—underscoring the need for whole-of-society approaches to modern conflict with medicine as a primary theme and support element. Key takeaways are listed below with shared consensus on medical preparedness, greater military-civilian collaboration, advances in innovation, and most importantly, an urgency to act.

Key Takeaways

1. **Modern Conflict Demands Military-Civilian Medical Cooperation:** Modern conflict demands deliberate, sustained collaboration between military and civilian healthcare systems; neither can meet its medical demands alone.
2. **Medical Resiliency is a National Security Imperative:** Effective, interoperable military and civilian medical systems are an imperative for the nation to meet modern conflict's escalating mix of regular and irregular threats.
3. **Medicine Cannot Rest on Prior Assumptions:** Modern conflict requires adapting lessons learned through the Global War on Terror (GWOT) to the new realities of war that challenge military and civilian healthcare alike.
4. **Irregular Warfare is Already Targeting Healthcare:** Nefarious actors are already targeting healthcare institutions and industry using IW tactics. We can assume that the U.S. homeland will experience more of these attacks, and if great power conflict occurs, their scope and intensity will increase.
5. **Effective Preparation for Resistance Operations Includes Medicine:** Healthcare system resilience prepares a population for resistance, if it is necessary. Current guidance for partners and allies on resistance found in the *Resistance Operating Concept (ROC)* has limited information on the role of medicine. In order to fill this gap, summit participants framed a *Medical Annex to the ROC*.
6. **Now is the Time to Act:** Summit participants consistently argued that now is the time for the military and civilian healthcare systems to prepare for the next generation of threats that are already here.

Key Takeaways

1. Modern Conflict Demands Military-Civilian Medical Cooperation

Whole-of-society response to conflict demands military-civilian medical cooperation. Currently, civilian and military direct care healthcare systems operate separately in the United States. Crises in the form of large-scale combat operations (LSCO) likely will inflict casualty numbers not seen since World War II. Drawing on lessons from Ukraine, participants advocated for increased collaboration through planning, training, and exercises to be effective. The U.S. military healthcare system will lean on its civilian counterparts to meet demand as it becomes overwhelmed. Summit attendees emphasized that key lessons from Ukraine suggest preparations should be made now to facilitate the flow of patients between the two systems.

Modern conflict will inflict a variety of stressors on the civilian healthcare system that will require military support and guidance. This cooperation was tested during the COVID-19 pandemic when civilian hospitals and other facilities had to integrate military support due to the system's limited indigenous surge capacity in resources and staffing. Summit participants suggested a LSCO scenario would inflict greater stress on the system due to significant patient surge, reduced manning due to reservist medical staff deployments, and IW attacks on homeland medical targets. While participants were divided on how to confront this challenge, several advocated for the need for formal coordination frameworks, relationship building, information sharing, joint training and doctrine development, and innovation partnerships with an emphasis on application that would enhance both military and civilian care systems.

2. Medical Resiliency is a National Security Imperative

While international law protects medical infrastructure, participants highlighted key examples from abroad showing that unethical opponents will target healthcare infrastructure. Adversaries do this because they know that effective medical support to civilian and military populations is important for high morale and provides the civilian and warfighter confidence necessary for resilience or resistance. Participants pointed out that future conflicts will directly target critical civilian infrastructure through cyber and physical irregular attacks which may cause panic. Leaders should prioritize healthcare as a national security imperative to serve as a “north star” in times of crisis to enable providers to provide patient care regardless of the challenge.

Summit discussions also pointed out that U.S. and allied militaries depend heavily on medical support to maintain warfighter effectiveness. U.S. medical support helps injured or sick warfighters return to duty, to keep combat strength high. Lastly, the assurance of available medical care is fundamental to warfighter morale and the will to fight. Medical resilience is a cornerstone of ensuring a healthy and motivated fighting force.

3. Medicine Cannot Rest on Prior Assumptions

Summit participants agreed that medical planning for future conflict will require a different approach than recent wars. During GWOT medical providers were able to consistently leverage rapid response and medical evacuation to provide definitive care within a timeframe known as the ‘golden hour.’ Future contested environments and IW threats will stretch the evacuation window to days, forcing a shift in medical strategy toward prolonged field care and delivering more advanced interventions closer to the point of injury. Examples from Ukraine point to a challenging environment; participants described how casualties are frequently unreachable for even medics due to high intensity conflict and Unmanned Aerial Vehicles targeting medical evacuation. This new paradigm of battlefield medicine, more similar to World War I or II than any recent U.S. conflict, requires a greater reliance on individual soldiers as the first line of medical response. Additionally, it requires preparing military medical providers to work in austere environments where medical resupply is inadequate, specialists are unreachable, and the only higher level of care, if it exists, may be local civilian providers.

While the new challenges require a rethink of military medicine, participants pointed towards multiple ways to ease the transition. Some participants pointed to existing programs, including programs affiliated with MCMM or the IWC, training personnel to provide care in these challenging environments. Other participants pointed to new technologies to increase the skill of medics, including through telemedicine or artificial intelligence digital twins of experts to give battlefield providers the knowledge to respond to a wider range of challenges.

Additionally, participants recommended that modern conflict requires a geographic shift in where the military system will provide care. Damage Control Resuscitation and Damage Control Surgery will still play a central role, but these capabilities move towards the front while maintaining standards of care and clinical governance. Lower-level providers may need to make clinical decisions normally outside of their scope when evacuation and communication is degraded. Participants suggested that this shift should not be ad hoc but be prepared through training, clearer clinical authorities, and improved documentation. These participants said that if the military asks forward deployed providers to operate with greater autonomy in contested environments, then the military medical system should provide the doctrine, training, clinical governance, and ethical support to do so safely.

4. Irregular Warfare is Already Targeting Healthcare

Participants expected two related phases of IW threats to healthcare: current probing of the healthcare sector and IW targeting during great power conflict. Recent state sponsored cyber-attacks, digital information gathering by adversaries, and examples of politically motivated actors targeting healthcare institutions were discussed as examples of probing. During conflict, these threats will likely expand, targeting not just medical institutions but the critical infrastructure that the military and civilian sectors rely on. One participant specifically pointed to

dangerously under-protected single points of failure within national resource networks that threaten the stability of numerous healthcare systems.

An additional breakout group used a tabletop exercise to guide a discussion on what a whole-of-society response to these threats would look like. The exercise explored a campaign in which adversaries coordinate a series of actions designed to strain U.S. decision-making and overwhelm the national health and emergency management systems. The group saw cyber resiliency as critical to patient safety and deterrence. Hostile cyber activity against hospitals is a potential early phase of conflict. Even brief disruptions of critical systems can slow care, erode trust, worsen medical outcomes, and overwhelm regional systems, especially when small or rural hospitals fail first. Building resiliency pre-conflict requires creating a simple national “backup mode” for care. Participants identified a critical gap in standardized protocols for sustaining medical and administrative functions when network systems fail.

To confront IW threats, participants recommended updating laws and regulations so hospitals can rapidly share threat data. Once legal concerns are addressed, civilian sector stakeholders argued to align financial incentives with cyber readiness, potentially by tying a portion of federal health reimbursement to minimum cyber-resilience standards. In planning and emergency management exercises, exercise designers should treat cyber disruption of health care as a core scenario impacting health, defense, public safety, industry, and communities rather than a concern sequestered to the information technology department.

5. Effective Preparation for Resistance Operations Includes Medicine

Modern conflict’s potential intensity, scope, and extension into the civilian setting call for resistance operations to be considered upfront. Resistance operations without medical support increases risk of failure. The *ROC* is a planning guide for resistance organizers and planners in the event that an occupying force overtakes a society. Participants expressed concern about the lack of medical support included in the *ROC*, a view previously highlighted by the Special Operations Medical Association’s committee on Medical Support to Irregular Warfare (MSIW). There is an ongoing project to develop a *Medical Annex to the ROC* and the summit served as an opportunity to gain input and stakeholder buy-in. The IWC agreed to support and lead the *Medical Annex* project, building on the work previously completed. At the summit, a *ROC* focused breakout group sought to incorporate community feedback and buy-in to the *Medical Annex* project.

At the event, participants largely agreed on the need for an annex and provided guidance on how the product could best support partners, allies, and operators. Intended as a framework for medical support to resistance operations, the *Medical Annex to the ROC* provides a comprehensive approach to sustaining populations under occupation and strengthening resistance movements. Broad agreement exists that a document alone is insufficient; meaningful progress

requires policy guidance and leadership buy-in across all levels of the nation to prioritize medical support to resistance operations.

6. Now is the Time for Change

Participants repeatedly highlighted both the urgency and opportunity to effectuate change in the near future. For medical challenges related to great power conflict, the summit suggested that the United States and its partners and allies should learn lessons from the Ukraine conflict as soon as possible. Now, not when LSCO breaks out, is the time to plan medical strategies. For the civilian sector, summit proceedings repeatedly highlighted the urgency of building resiliency before major coordinated attacks. While adversaries and non-state actors have repeatedly used irregular attacks on the sector, the U.S. medical system has not had to face a large-scale, coordinated IW campaign. The time to prepare is before such a campaign begins. Additionally, the civilian and military healthcare systems can improve patient care during conflict if the two prepare to collaborate before conflict occurs. Finally, participants emphasized the critical opportunity for the United States to secure the domestic medical battlespace by integrating these best practices into national preparedness strategies and strengthening the resilience of our own healthcare systems.

Way Forward

Presentations at the summit made clear that effective medical strategies for modern conflict require broad stakeholder cooperation. Most participants felt that the United States and its partners and allies should adopt a whole-of-society approach to be successful. The summit's sponsors stand ready to continue pushing the conversation forward by leveraging their unique subject matter expertise, authorities, and resources.

- Leveraging the findings from this event, MCMM, the IWC, and NIDHC will continue to enable the maturation of the MSIW effort by considering the following future events:
 - I. Hold virtual working groups focused on the 2026 summit breakout groups. These working groups will allow summit attendees to advance ideas discussed at the summit and shape proposals to address the challenges identified at the summit.
 - II. Host a Medical Strategies for Modern Conflict Summit 2027 to continue exploration of whole-of-society defense medical support and resiliency. The 2027 topic will be determined based on the conversations at the virtual working groups.
- MCMM will continue to support training and education efforts through its menu of courses, that include topics in austere resuscitative and critical care, medical topics in IW settings, and more.

- MCMM will nurture collaborative efforts with IWC and NIDHC, along with local partners to further explore whole-of-society medical support and healthcare resiliency.
- The IWC will support the completion and publication of the *Medical Annex to the ROC*.

Role of Mayo Clinic Military Medicine

MCMM is a Mayo Clinic program that aims to help solve challenges where national security and medicine intersect. It seeks areas of alignment under its three shield operative model: education and training, research and innovation, and excellent patient care. In this effort, it will be a steady and trusted partner striving to meet patient's needs in spite of the threats modern conflict pose. To explore MCMM's work in more detail, please visit: <https://education.mayo.edu/mayo-clinic-military-medicine/>.

Role of the Irregular Warfare Center

As the central mechanism for developing the Department of War's irregular warfare knowledge, the IWC will continue to advance MSIW, building directly on the topics discussed at this summit. This ongoing effort aligns with the Assistant Secretary of War for Special Operations and Low-Intensity Conflict directive assigning MSIW as a core priority for the IWC. For more information or to join the IWC's MSIW Functional Area Network, visit <https://irregularwarfarecenter.org/>.

Role of National Institute for Defense Health Cooperation

The NIDHC supports military and civilian health operational readiness in crisis and conflict, both domestically and internationally. Formed in 2025 by merging the strengths of the National Center for Disaster Medicine and Public Health, the Center for Global Health Engagement, and the security cooperation education and training functions of the Defense Institute for Medical Operations, NIDHC serves as a powerful hub for advancing defense health cooperation. In this position NIDHC continues to support efforts to advance the Country's medical readiness in the face of modern conflict. For more information, visit <https://nidhc.usuhs.edu/>.

Role of Destination Medical Center

Destination Medical Center (DMC) is developing Discovery Square, a HealthTech innovation district adjacent to Mayo Clinic in Rochester, Minnesota. This unique environment brings together clinicians, researchers, entrepreneurs, industry, and government partners to accelerate innovation at the intersection of healthcare, technology, and military medicine. DMC is committed to supporting future collaborations and helping develop the specialized facilities and

innovation infrastructure needed to position Minnesota as a national leader in medical innovation, preparedness, and healthcare resilience. For more information, visit <https://dmc.mn>.

Disclaimer

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